Study on mapping and evaluating the implementation of the Europe's Beating Cancer Plan

Final report

Specific contract No SC 2022 P3 06 in the context of the Better Regulation Framework Contract SANTE/2021/OP/0002

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List of abbreviations

Abbreviation	Full name
AI	Artificial intelligence
BECA	Special Committee on Beating Cancer
BUMPER	Boosting the Usability of the EU Mobile App for Cancer Prevention project
CANCON	European Guide on Quality Improvement in Comprehensive Cancer Control project
CCC	Comprehensive Cancer Centre
CCCN	Comprehensive Cancer Care Network
CCI	Comprehensive Cancer Infrastructure
CNS	Caisse National de Santé
CraNE	Joint Action Network of Comprehensive Cancer Centres
CPO	Reference Centre for Epidemiology and Cancer Prevention
CSO	Civil society organisation
CT	Computed tomography
DALY	Disability-adjusted life years
DART	Data-rich clinical trials
DG SANTE	Directorate-General for Health and Food Safety
DMCG	Danish Multidisciplinary Cancer Group
EBCP	Europe's Beating Cancer Plan
EC	European Commission
ECAC	European Code Against Cancer
eCAN	Joint Action on strengthening EHealth including telemedicine and remote monitoring for health care systems for CANcer prevention and care
ECDC	European Centre for Disease Prevention and Control
ECIR	European Cancer Inequalities Registry
ECIS	European Cancer Information System
EEA	European Environment Agency
EFPIA	European Federation of Pharmaceutical Industries and Associations
EFSA	European Food Safety Authority
EHDS	European Health Data Space
EHRs	electronic health records
EIT	European Institute of Innovation & Technology
EMA	European Medicines Agency
ENCR	European Network of Cancer Registries
ERA	European Economic Area
ERC	European Research Council

Abbreviation	Full name
ERSPC	European Randomised study of Screening for Prostate Cancer
ESR	European Society of Radiology
EU	European Union
EU4Health	EU4Health programme
EU-CAYAS-NET	European Network of Youth Cancer Survivors
EU-REST	European Union Radiation, Education, Staffing, & Training project
GDPR	General Data Protection Regulation
HBV	Hepatitis B virus
HPC	high-performance computing
HPV	Human papillomavirus
HTPs	Heated Tobacco Products
IARC	International Agency for Research on Cancer
IHLGiS	Inclusive Healthy Lifestyle Groups in Schools
iPAAC Joint Action	Innovative Partnership for Action Against Cancer
JA	Joint Action
JANE	Joint Action on European Networks of Expertise
JRC	Joint Research Centre
ML	Machine Learning
MoC	Mission on Cancer
MRI	Magnetic Resonance Imaging
MS	Member State
NCCP	National Cancer Control Plans
NCD	Non-communicable disease
NEWROAD	Open Platform for European Networking and Repurposing of Oncological Assets and Drugs project
NGO	Non-governmental organisation
NIJZ	National Public Health Institute of Slovenia
OACCUs	Outdoor Against Cancer Connects us
OECD	Organisation for Economic Co-operation and Development
OECI	Organisation of European Cancer Institutes
PASYKAF	Cyprus Association of Cancer Patients and Friends
PCM4EU	Personalised Cancer Medicine for all EU citizens
PERCH	PartnERship to Contrast HPV Joint Action
PRAISE-U	Prostate cancer Awareness and Initiative for Screening in the European Union project
RWD	real-world data
SAMIRA	Strategic Agenda for Medical Ionising Radiation Applications

Abbreviation	Full name
SIREP	Sistema Informativo e acquisizione dati (Italian Information System for Recording Occupational Exposures to Carcinogens)
SmartCARE	smart Card Application improving cancer survivors quality of life project
SOLACE	Strengthening the screening of Lung Cancer in Europe project
TOGAS	Towards Gastric Cancer Screening Implementation project
UN	United Nations
UNCAN.eu	Understanding Cancer
WHO	World Health Organisation

Abstract

Europe's Beating Cancer Plan (EBCP), adopted in February 2021, proposes actions across the four pillars of the cancer pathway, i.e. prevention, early detection, diagnosis and treatment, and quality of life of cancer patients and survivors, and three cross-cutting themes, i.e. research and innovation, inequalities, and paediatric cancers. The 'Study on mapping and evaluating the implementation of the Europe's Beating Cancer Plan' aims to support the review of the EBCP, planned by the end of 2024. The study involved a range of data collection and analysis activities, including literature review and national desk research, interviews with EU-level stakeholders, an online targeted survey with national stakeholders, case studies, focus groups with experts, and validation workshops with stakeholders. These activities informed a future-proofing analysis of the adequacy of the EBCP with regard to recent and future technological, political and societal developments; a country-level analysis of the national cancer policies implemented, barriers experienced and potential further role of the EU; an analysis of the application process and implementation of cancer-related projects funded under the EU4Health Programme, and the development of a monitoring framework for the EBCP at EU level.

Résumé

Le plan européen de lutte contre le cancer (Europe's Beating Cancer Plan – EBCP), adopté en février 2021, propose des actions à travers les quatre piliers du parcours du cancer, à savoir la prévention, la détection précoce, le diagnostic et le traitement, et la qualité de vie des patients atteints et des survivants du cancer, et trois thèmes transversaux, à savoir la recherche et l'innovation, les inégalités et les cancers pédiatriques. L'étude sur la revue et l'évaluation de la mise en œuvre du plan européen de lutte contre le cancer vise à soutenir la révision du plan, prévue d'ici la fin de l'année 2024. L'étude a comporté une série d'activités de collecte et d'analyse de données, notamment une analyse documentaire et des recherches documentaires nationales, des entretiens avec des parties prenantes au niveau de l'UE, une enquête ciblée en ligne avec des parties prenantes nationales, des études de cas, des groupes de discussion avec des experts et des ateliers de validation avec les parties prenantes. Ces activités ont permis d'effectuer une analyse prospective de l'adéquation du EBCP au regard des évolutions technologiques, politiques et sociétales récentes et futures ; une analyse au niveau national des politiques nationales de lutte contre le cancer mises en œuvre, des obstacles rencontrés et du rôle potentiel de l'UE ; une analyse du processus de candidature et de la mise en œuvre des projets liés au cancer financés par le programme EU4Health, et l'élaboration d'un cadre de suivi pour l'EBCP au niveau de l'UE.

Zusammenfassung

Der im Februar 2021 verabschiedete Europäische Plan gegen den Krebs (auf Englisch, *Europe's Beating Cancer Plan – EBCP)* schlägt Maßnahmen entlang der vier Säulen des Krebs-Behandlungspfads vor, d. h. Prävention, Früherkennung, Diagnose und Behandlung sowie Lebensqualität von Krebspatient:innen und -überlebenden. Der Plan umfasst außerdem drei Querschnittsthemen: Forschung und Innovation, Ungleichheiten, und Krebs im Kindesalter. Die „Mapping- und Evaluierungsstudie zur Umsetzung des Europäischen Plans gegen den Krebs" soll die für Ende 2024 geplante Bewertung des EBCPs unterstützen. Die Studie umfasste eine Reihe von Aktivitäten zur Datenerhebung und -analyse, darunter Literaturrecherche und nationale Fachliteraturrecherchen, Interviews mit Interessenvertreter:innen auf EU-Ebene, eine gezielte Online-Umfrage mit nationalen Interessenvertreter:innen, Fallstudien, Fokusgruppen mit Expert:innen und Validierungsworkshops mit Interessenvertreter:innen. Diese Aktivitäten dienten als Grundlage für eine Analyse des EBCPs, wie zukunftsfähig und angemessen er ist in Hinblick auf aktuelle und künftige technologische, politische und gesellschaftliche Entwicklungen. Weiterhin enthält die Studie eine Länderanalyse der umgesetzten nationalen Krebspolitiken, der erlebten Hindernisse, und der möglichen weiteren Rolle der EU; eine Analyse des Antragsverfahrens und der Umsetzung von krebsbezogenen Projekten, die im Rahmen des EU4Health Programms gefördert werden, sowie die Entwicklung eines Monitoring-Rahmens für den EBCP auf EU-Ebene.

Executive summary

Objective and scope

In 2020, 2.7 million people in Europe were diagnosed with cancer, and 1.3 million persons died from cancer. Europe's Beating Cancer Plan (EBCP)[1], adopted in February 2021, proposes 42 actions including 10 flagship initiatives to fight cancer across the four steps of the cancer pathway, i.e. prevention, early detection, diagnosis and treatment, and quality of life of cancer patients and survivors, and three cross-cutting themes, i.e. research and innovation, inequalities, and paediatric cancers.

The purpose of the 'Study on mapping and evaluating the implementation of the Europe's Beating Cancer Plan' is to support the review of the EBCP, planned by the end of 2024. Its specific objectives are:

- to assess whether the actions taken at EU and Member State levels are sufficient to achieve the objectives, or whether additional measures are necessary;
- to identify further actions to support, coordinate and complement Member States' efforts to reduce the suffering caused by cancer;
- to set the baseline and build a monitoring framework to assess the outcomes of the Europe's Beating Cancer Plan.

Methodological approach

The study aimed to address a set of study questions through a mix of qualitative and quantitative methods, across the following tasks:

- **Task 1 'Future-proofing analysis'** aimed to assess the relevance of the EBCP with regard to recent and expected future technological, political and societal developments and challenges. This task involved developing the intervention logic of the EBCP to show the links between the problems identified, the objectives and input of the EBCP, the related activities/outputs and the expected results and long-term impacts. An extensive literature review was then conducted, covering academic publications, institutional and policy documents, and position papers. In addition, 56 interviews were conducted with EU-level stakeholders including European institutions, civil society organisations, healthcare professional organisations, health industry associations and companies, current and former members of the Cancer

[1] Communication from the Commission to the European Parliament and the Council Europe's Beating Cancer Plan COM(2021) 44 final. Available at: Link

Mission board, academia, stakeholders from the Cancer stakeholder contact group, as well as international organisations.

- **Task 2 'Country analysis'** aimed to map and analyse the national cancer strategies and measures along the different areas of the EBCP in the 27 EU Member States, Iceland and Norway, their impacts and the barriers to implementation, as well as good practices and areas for further EU support and coordination. This task involved desk research of national strategic policy documents and EU or international reports and repositories of measures, as well as a review of statistics on key trends from EU and international databases. In addition, a targeted online survey was conducted with national stakeholders, collecting 82 responses from national authorities, civil society organisations, healthcare professional associations and health industry associations. The information collected through the national desk research and the survey were analysed and summarised in 29 country factsheets, covering the national cancer strategy, the policies implemented in the last five years across the four pillars and three cross-cutting themes of the EBCP, an evolution of the situation, and the main barriers to the implementation of cancer-related measures.
- **Task 3 'Evaluation of progress'** aimed to investigate the application process and implementation of cancer-related projects funded under the EU4Health Programme. This involved reviewing and analysing the number, type and geographical base of applicants and participants in Joint Actions, calls for proposals and calls for tenders across the four pillars of the EBCP (prevention, early detection, diagnosis and treatment, quality of life of cancer patients and survivors). In addition, different types of projects (i.e. at least one Joint Action, one project grant and one procurement contract to the extent possible) were selected under each pillar to be assessed more in-depth through case studies, with desk research and interviews with participating organisations and impacted stakeholders.
- **Task 4 'Monitoring framework'** aimed to build a monitoring framework for the EBCP. This task involved defining the scope of the monitoring framework, reviewing existing reporting requirements and data sources based on desk research and interviews with stakeholders, conducting a gap analysis, and developing the outline of the monitoring framework with output, result and impact indicators across the 42 actions of the EBCP.
- **Task 5 'Focus groups and workshops'** had the objective to present and discuss emerging findings from the study with experts and stakeholders, to receive feedback and refine the analysis. Four online focus groups were organised with the panel of eight experts appointed for the study, in order to discuss the preliminary results of Tasks 1, 2, 3 and 4 respectively. In addition, two hybrid workshops were held to present respectively the results of Tasks 1 and 2 at the first workshop, and the results of Task 3 and 4 at the second workshop. Each workshop involved around 100 participants, covering all the categories of stakeholders consulted throughout the study.

- **Task 6 'Synthesis and reporting'** aimed to triangulate and analyse the findings from the different tasks of the study to address the study questions and draw robust conclusions and recommendations.

Main findings of the study

Baseline situation

The assessment of the baseline situation across the four pillars of the EBCP showed contrasted situations across Member States before the EBCP was adopted.

The cancer prevention landscape across EU Member States is complex. Regarding tobacco control, some countries have high rates of daily smoking, necessitating the implementation of stricter tobacco control policies, while other countries stand out for their successful tobacco control measures and having some of the lowest smoking rates in the EU. Similarly, there were varying levels of alcohol consumption. Addressing obesity and promoting physical activity pose significant challenges across the EU, with high obesity rates in several Member States. Moreover, inadequate engagement in physical activity persists in some countries, necessitating comprehensive strategies to reverse these trends and prevent future cancer incidences. Environmental pollution and occupational hazards also contribute significantly to cancer risk, with some countries facing higher levels of air pollution, while efforts to reduce occupational exposure to carcinogens require greater commitment from countries with higher rates of work-related cancer deaths. Infections linked to cancer, such as Hepatitis B, HPV, and Helicobacter pylori, present additional challenges, with discrepancies in coverage among Member States, particularly among females and certain regions.

Significant disparities exist in the implementation and participation rates of screening programmes across EU Member States, emphasizing the urgent need for standardised approaches and increased public awareness. The availability and uptake of screening programmes for breast, cervical, and colorectal cancers vary widely among EU countries. Of particular concern is the comparatively lower uptake of colorectal cancer screening across most European countries, highlighting the need to expand screening efforts and improve accessibility to screening tests.

With regards to diagnosis and treatment, disparities in access to radiotherapy services across EU Member States demonstrate the need for strategic investments to bridge existing gaps and ensure equitable access to cancer treatments for all patients.

Finally, advancements in early detection, therapeutic interventions, and supportive care have significantly enhanced cancer survival rates across the EU. However, the burden of cancer, as measured by disability-adjusted life years (DALYs), varies widely among Member States, reflecting disparities in quality of life for cancer patients and survivors.

Developments relevant for fighting cancer since the adoption of the EBCP

Since the adoption of the EBCP, advancements in cancer research and treatment methods have emerged, fuelled by technological innovations. Europe's strengths include cancer vaccine progress, mRNA therapeutics, and precision medicine, enhancing early detection and personalised treatment. Additionally, artificial intelligence (AI) and digital health integration hold promises for diagnosis and healthcare efficiency. The COVID-19 pandemic also accelerated medical technology development, emphasising the crucial role of data-driven policymaking.

Several policy initiatives are relevant to contribute to achieving the objectives of the EBCP. Within the European Green Deal, the Farm to Fork strategy aims to promote healthy diets to reduce obesity and the prevalence of diseases such as cancer. The Zero Pollution Action Plan includes various actions to reduce the number of premature deaths caused by air pollution. In addition, the Pharmaceutical Strategy aims to revise the pharmaceutical legislation to ensure access to affordable medicines, the competitiveness of the European pharmaceutical industry and ensure crisis preparedness.

However, recent societal trends have the potential to significantly impact cancer occurrence and awareness in Europe. Disparities persist in harmful behaviour such as tobacco and alcohol consumption, with emerging products like e-cigarettes complicating the success of control measures. Obesity rates continue to rise, contributing to a significant cancer burden. Work-related carcinogen exposure remains a concern, requiring coordinated action for worker protection. Additionally, climate change poses new challenges, affecting cancer risk and healthcare access. Socio-economic disparities exacerbate inequalities in cancer care across European regions, highlighting the need for comprehensive policy responses. The pandemic worsened social health inequalities and disrupted cancer detection and treatment, with over 100 million missed screenings and delayed surgeries and chemotherapy for many Europeans.

Overview of national cancer strategies and measures

Before the adoption of the EBCP in 2021, 22 EU Member States, Iceland and Norway had a national cancer plan in place. After the adoption of the EBCP, four countries developed their national cancer plans, while 10 updated their existing plans. In addition, by the time of the end of our country analysis (December 2023) three countries were updating their plans. The majority of cancer plans were found to be well-aligned with the EBCP, covering its four pillars. On the other hand, the cross-cutting themes were sometimes partly covered or not covered by national cancer plans.

For prevention, all countries analysed included initiatives to tackle lifestyle habits related to cancer risk-factors in their national plans, with different levels of strictness. For early detection, all countries analysed had national cancer screening programmes in place for breast, colorectal and cervical cancer, with a few exceptions (although the exceptions had either opportunistic or private screening programmes available). Additionally, two EU Member States had in place lung

cancer screening programmes, while as a response to the recommendation in the EBCP, six other EU Member States were running or planning to run pilot programmes. Regarding diagnosis and treatment, the national cancer plans included a wide range of initiatives to improve the quality of diagnosis and treatment. Some common elements included greater patient involvement in decision-making processes, and the continuous training of healthcare professionals. For quality of life of cancer patients and survivors, the initiatives included varied, including actions for the financial support for cancer patients and carers, providing psychological support for cancer patients and relatives, and the introduction of “right to be forgotten” legislation.

With regard to the cross-cutting themes of the EBCP, many of the analysed countries had introduced programmes and action plans aimed at fostering cancer research. However, there were clear differences in research funding depending on the size of the country, and related infrastructure and workforce availability. In terms of reduction in cancer inequalities, our analysis demonstrated that disparities are also a concern between regions within analysed countries, in particular for those with decentralised healthcare competences at the regional level. With regard to paediatric cancer, within analysed national cancer plans, this represented a priority area in some cases, while in the majority of cases paediatric cancer fell under the umbrella of other priority areas on care or quality of life.

Barriers experienced

From financial barriers to policy and institutional challenges, behavioural and clinical obstacles, a range of issues hinder the implementation of national cancer-related policies and progress in cancer prevention, treatment, and care. In addition, the COVID-19 pandemic further exacerbated existing challenges, leading to resource reprioritisation, delays in cancer services, and increased health inequalities. The abovementioned barriers have a differential impact on the pillars and cross-cutting themes of the EBCP. While behavioural barriers predominantly affect the quality of life and prevention pillars, clinical barriers primarily impact quality of life, diagnosis and treatment, and early detection. Financial and institutional barriers, however, exert an influence across all pillars and cross-cutting themes. Addressing these barriers requires a concerted effort from policymakers, healthcare professionals, civil society organisations, and industry stakeholders to ensure alignment, improve collaboration, and prioritise innovative solutions.

Adequacy of the EBCP

In spite of the rising incidence of cancer in Europe, advancements in treatment are improving outcomes and increasing the number of survivors, necessitating effective follow-up care. The EBCP has garnered widespread support for its ambitious goals and comprehensive approach, addressing all aspects of the cancer continuum, yet ultimate responsibility for action lies with national governments.

Despite EU and national efforts to reduce inequalities, such as the launch of the European Cancer Inequalities Registry[2], these persist across countries and regions, socio-economic groups and the different stages of the cancer pathway. Based on our analysis, we consider that additional efforts could require targeting vulnerable groups, improving health literacy and addressing the socio-economic and commercial determinants of health. Similarly, the actions related to prevention could be strengthened to reinforce health literacy, considering that progress is still limited with some lifestyle factors (e.g. obesity) even worsening. In this respect, a recent call for proposal to increase health literacy for cancer prevention and care was launched to address this issue[3].

Our analysis also indicates that actions on delivering high-quality care and ensuring a high-quality health workforce could be strengthened, as these objectives are currently hindered by the shortage of healthcare workforces, the lack of multidisciplinary teams and issues with the access to oncological medicines. To support the cross-cutting theme of research and innovation, further data availability and sharing could be promoted, as well as further collaboration between academia and the industry.

New actions may be needed on paediatric cancers and quality of life of patients and survivors, as several aspects are still insufficiently or not covered in the EBCP and in national cancer plans. New actions may also be needed to tackle the shortage of healthcare workforce, to address the special needs of elderly patients, or to tackle rare cancers, as these areas are not covered in the EBCP.

In addition, lessons from the pandemic, such as the importance of data utilization, telemedicine, and hospital infrastructure, underscore the need for EBCP adaptation to future health crises.

Evaluation of progress for cancer-related projects under the EU4Health Programme

The review of applications and participants in cancer projects and actions funded under the EU4Health Programme shows that all countries have participated in at least one Joint Action up to December 2023, except for three countries. All 27 EU Member States, Iceland and Norway are also represented among the participants in project grants and tenders, with a higher participation of higher and secondary education institutions as well as research organisations compared to other types of organisations. The disparities in participation observed, particularly among smaller organisations and less affluent Member States, raise important questions about fairness and inclusivity in the distribution of EU funds.

[2] European Commission (undated). European Cancer Inequalities Registry. Available at: Link

[3] European Commission EU Funding & Tenders Portal. Call for Proposals to increase health literacy for cancer prevention and care - CR-g-24-39. EU4H-2024-PJ-02-2. Available at : Link

Several challenges were identified in the application process within the EU4Health Programme, ranging from the burdensome nature of documentation requirements (for Joint Actions and project grants) to concerns over funding allocations and consortium formation (for project grants and procurement contracts), highlighting the need for careful consideration and potential revision of certain aspects of the programme. Addressing these challenges, for example through guidelines to facilitate the application process, or a revision of the co-funding scheme to increase the EU funding share, may not only facilitate smoother collaboration and project implementation but also contribute to levelling the playing field in terms of provisions of the EBCP and addressing any existing inequalities across the EU. It is important that measures are taken to ensure that all Member States, regardless of size or financial capacity, have equal opportunities to engage in projects under the EU4Health Programme in the field of cancer, thereby maximizing the programme's potential to achieve the goals and objectives set out in the EBCP.

Some barriers to project implementation under the EU4Health Programme were also highlighted by participating organisations. These barriers related to the financial and administrative burden that organisations need to incur to participate in projects and actions (for Joint Actions and project grants), as well as the limited coordination of various intertwined projects running in parallel (for Joint Actions, project grants and procurement contracts). Specific country characteristics (e.g. limited infrastructure, workforce shortage) may also hinder advances at the national level. Addressing these different issues, for example through better coordination from the Commission services between intertwined projects, increased dissemination of the project results, standardising the financial reporting, and taking into account special needs of cancer patients or survivors for the travel costs, would ensure more efficient allocation of EU funds and more effective and impactful implementation of the projects and actions.

Monitoring framework of the EBCP

Assessing the progress of the EBCP at European level requires a comprehensive monitoring framework which combines the use of qualitative and quantitative metrics to track the degree of implementation of the actions, inform strategic adjustments and assess the direct and long-term effects of the initiative. While output and result indicators are strictly linked to specific actions, impact indicators reflect the combined effects of the initiatives of the EBCP as well as the broader impacts of socio-economic, demographic, and environmental trends. The monitoring framework proposed in this study relies on numerous data sources to monitor each action of the EBCP. Remarkably, the analysis of existing reporting requirements suggests that the available data sources are sufficient to compute the required system of metrics and no additional reporting mechanisms are needed.

Résumé analytique

Objectif et champ d'application

En 2020, 2,7 millions de personnes en Europe ont été diagnostiquées d'un cancer et 1,3 million de personnes en sont mortes. Le plan européen de lutte contre le cancer (Europe's Beating Cancer Plan – EBCP)[4], adopté en février 2021, propose 42 actions, dont 10 initiatives phares pour lutter contre le cancer à travers les quatre étapes du parcours cancer, à savoir la prévention, la détection précoce, le diagnostic et le traitement, et la qualité de vie des patients et des survivants du cancer, et trois thèmes transversaux, à savoir la recherche et l'innovation, les inégalités et les cancers pédiatriques.

L'objectif de l'étude sur la revue et l'évaluation de la mise en œuvre du plan européen de lutte contre le cancer est de soutenir la révision de l'EBCP, prévue d'ici la fin de 2024. Ses objectifs spécifiques sont les suivants :

- Évaluer si les actions prises au niveau de l'UE et des États membres sont suffisantes pour atteindre les objectifs ou si des mesures supplémentaires sont nécessaires ;
- Identifier d'autres actions visant à soutenir, coordonner et compléter les efforts déployés par les États membres pour réduire le fardeau causé par le cancer ;
- Établir une base de référence et mettre en place un cadre de suivi pour évaluer les résultats du plan européen de lutte contre le cancer.

Approche méthodologique

L'étude visait à répondre à un ensemble de questions à l'aide d'un mélange de méthodes qualitatives et quantitatives, à travers les tâches suivantes :

- **La tâche 1 « Analyse de la pérennité »** visait à évaluer la pertinence de l'EBCP au regard des évolutions et des défis technologiques, politiques et sociétaux récents et futurs. Cette tâche a consisté à développer la logique d'intervention de l'EBCP afin de montrer les liens entre les problèmes identifiés, les objectifs et les contributions de l'EBCP, les activités et les résultats attendus et les impacts à long terme. Une analyse documentaire approfondie a ensuite été effectuée, couvrant les publications universitaires, les documents institutionnels et politiques et les prises de position. En outre, 56 entretiens ont été menés avec des parties prenantes au niveau de l'UE, notamment des institutions européennes, des organisations de la société

[4] Communication de la Commission au Parlement européen et au Conseil intitulée « Lutte contre le cancer » Plan européen de lutte contre le cancer, COM(2021) 44 final. Disponible à l'adresse : Lien

civile, des organisations de professionnels de la santé, des associations et des entreprises du secteur de la santé, des membres actuels et anciens du groupe d'experts de la Mission Cancer, des universitaires, des membres du groupe de contact des parties prenantes du cancer, ainsi que des organisations internationales.

- **La tâche 2 « Analyse par pays »** visait à identifier et à analyser les stratégies et mesures nationales de lutte contre le cancer dans les différents domaines de l'EBCP dans les 27 États membres de l'UE, ainsi qu'en Islande et en Norvège, leurs impacts et les obstacles à leur mise en œuvre, ainsi que les bonnes pratiques et les domaines dans lesquels l'UE pourrait renforcer le soutien et la coordination. Cette tâche a compris une recherche sur les documents stratégiques de politique nationale et les rapports et recueils européens ou internationaux de mesures existantes, ainsi qu'un examen des statistiques de bases de données européennes et internationales sur les principales tendances. En outre, une enquête en ligne ciblée a été menée auprès des parties prenantes nationales, recueillant 82 réponses d'autorités nationales, d'organisations de la société civile, d'associations de professionnels de la santé et d'associations d'entreprises du secteur de la santé. Les informations recueillies dans le cadre de la recherche documentaire nationale et de l'enquête ont été analysées et résumées dans 29 fiches d'information par pays, couvrant les stratégies nationales de lutte contre le cancer, les politiques mises en œuvre au cours des cinq dernières années à travers les quatre piliers et les trois thèmes transversaux de l'EBCP, les évolutions de la situation et les principaux obstacles à la mise en œuvre de mesures liées au cancer.

- **La tâche 3 « Évaluation des progrès »** visait à étudier le processus de candidature et la mise en œuvre des projets liés au cancer financés au titre du programme EU4Health. Il s'agissait d'examiner et d'analyser le nombre, le type et la base géographique des candidats et des participants aux actions communes, aux appels à propositions et aux appels d'offres dans les quatre piliers de l'EBCP (prévention, détection précoce, diagnostic et traitement, qualité de vie des patients atteints de cancer et des survivants). En outre, différents types de projets (c'est-à-dire au moins une action commune, un projet issu d'un appel à propositions et un contrat issu d'un appel d'offres dans la mesure du possible) ont été évalués plus en profondeur pour chaque pilier au moyen d'études de cas, de recherches documentaires et d'entretiens avec les organisations participantes et les parties prenantes concernées.

- **La tâche 4 « Cadre de suivi »** visait à élaborer un cadre de suivi pour l'EBCP. Cette tâche a compris la définition du périmètre du cadre de suivi, l'examen des exigences existantes en matière de rapports et des sources de données existantes sur la base de recherches documentaires et des entretiens avec les parties prenantes, une analyse des lacunes et l'élaboration de la structure du cadre de suivi avec des indicateurs de réalisation, de résultat et d'impact pour les 42 actions de l'EBCP.

- **La tâche 5 « Groupes de discussion et ateliers »** avait pour objectif de présenter et de discuter des résultats émergents de l'étude avec des experts et des parties prenantes, de recueillir des commentaires et d'affiner l'analyse. Quatre groupes de discussion en ligne ont été organisés avec le panel de

huit experts désignés pour l'étude, afin de discuter des résultats préliminaires des tâches 1, 2, 3 et 4 respectivement. En outre, deux ateliers hybrides ont été organisés pour présenter respectivement les résultats des tâches 1 et 2 lors du premier atelier, et les résultats des tâches 3 et 4 lors du deuxième atelier. Chaque atelier a réuni environ 100 participants, couvrant toutes les catégories de parties prenantes consultées tout au long de l'étude.

- **La tâche 6 « Synthèse et rapport »** visait à trianguler et à analyser les résultats des différentes tâches de l'étude afin de répondre aux questions de l'étude et d'en tirer des conclusions et des recommandations robustes.

Principales conclusions de l'étude

Situation de référence

L'évaluation de la situation de référence pour l'ensemble des quatre piliers de l'EBCP a mis en évidence des situations contrastées entre les États membres avant l'adoption de l'EBCP.

Le paysage de la prévention du cancer dans les États membres de l'UE est complexe. En ce qui concerne la lutte antitabac, certains pays ont des taux élevés de tabagisme quotidien, ce qui nécessite la mise en œuvre de politiques de lutte antitabac plus strictes, tandis que d'autres pays se distinguent par le succès de leurs mesures de lutte antitabac et par leurs taux de tabagisme parmi les plus bas de l'UE. De même, les niveaux de consommation d'alcool varient. La lutte contre l'obésité et la promotion de l'activité physique posent des défis importants dans l'ensemble de l'UE, avec des taux élevés d'obésité dans plusieurs États membres. De plus, l'activité physique est insuffisante dans certains pays, ce qui nécessite l'adoption de stratégies globales pour inverser ces tendances et prévenir l'incidence future du cancer. La pollution de l'environnement et les risques professionnels contribuent également de manière significative au risque de cancer, certains pays étant confrontés à des niveaux plus élevés de pollution de l'air, tandis que les efforts visant à réduire l'exposition professionnelle aux agents cancérigènes nécessitent un engagement plus important de la part des pays ayant des taux plus élevés de décès par cancer liés au travail. Les infections liées au cancer, telles que l'hépatite B, le VPH et Helicobacter pylori, présentent des défis supplémentaires, avec des disparités dans la couverture entre les États membres, en particulier chez les femmes et dans certaines régions.

Il existe d'importantes disparités dans la mise en œuvre et les taux de participation aux programmes de dépistage entre les États membres de l'UE, ce qui souligne le besoin urgent d'approches standardisées et d'une sensibilisation accrue du public. La disponibilité et l'adoption des programmes de dépistage des cancers du sein, du col de l'utérus et colorectal varient considérablement d'un pays de l'UE à l'autre. Le taux de dépistage du cancer colorectal comparativement plus faible dans la plupart des pays européens est particulièrement préoccupant, ce qui souligne la nécessité

d'intensifier les efforts de dépistage et d'améliorer l'accessibilité aux tests de dépistage.

En ce qui concerne le diagnostic et le traitement, les disparités dans l'accès aux services de radiothérapie entre les États membres de l'UE démontrent la nécessité d'investissements stratégiques pour combler les lacunes existantes et garantir un accès équitable aux traitements anticancéreux pour tous les patients.

Enfin, les progrès réalisés en matière de détection précoce, d'interventions thérapeutiques et de soins de soutien ont considérablement amélioré les taux de survie au cancer dans l'ensemble de l'UE. Cependant, la charge du cancer, telle que mesurée par les années de vie corrigées du facteur invalidité (AVCI), varie considérablement d'un État membre à l'autre, ce qui reflète les disparités en matière de qualité de vie des patients atteints de cancer et des survivants du cancer.

Développements pertinents pour la lutte contre le cancer depuis l'adoption de l'EBCP

Depuis l'adoption de l'EBCP, des avancées dans la recherche et les méthodes de traitement du cancer ont vu le jour, alimentées par des innovations technologiques. Parmi les points forts de l'Europe, citons les progrès réalisés dans le domaine des vaccins contre le cancer, les traitements à ARNm et la médecine de précision, qui améliore la détection précoce et le traitement personnalisé. De plus, l'intelligence artificielle (IA) et l'intégration du numérique dans la santé sont prometteuses en matière de diagnostic et d'efficacité des soins de santé. La pandémie de COVID-19 a également accéléré le développement des technologies médicales, mettant l'accent sur le rôle crucial de l'élaboration de politiques fondées sur les données.

Plusieurs initiatives politiques sont pertinentes pour contribuer à l'atteinte des objectifs de l'EBCP. Dans le cadre du pacte vert pour l'Europe, la stratégie « De la ferme à la table » vise à promouvoir une alimentation saine afin de réduire l'obésité et la prévalence de maladies telles que le cancer. Le plan d'action Zéro Pollution comprend diverses actions visant à réduire le nombre de décès prématurés causés par la pollution de l'air. En outre, la stratégie pharmaceutique vise à réviser la législation pharmaceutique afin de garantir l'accès à des médicaments abordables, la compétitivité de l'industrie pharmaceutique européenne et la préparation aux crises.

Cependant, les tendances sociétales récentes ont le potentiel d'avoir un impact significatif sur l'apparition du cancer et la sensibilisation en Europe. Des disparités persistent en ce qui concerne les comportements nocifs tels que la consommation de tabac et d'alcool, et des produits émergents comme les cigarettes électroniques compliquent le succès des mesures de contrôle du tabagisme. Les taux d'obésité continuent d'augmenter, ce qui contribue à un fardeau important du cancer. L'exposition à des agents cancérogènes liés au travail reste préoccupante et nécessite une action coordonnée pour protéger les travailleurs. De plus, le changement climatique pose de nouveaux défis, affectant le risque de cancer et l'accès aux soins de santé. Les disparités socio-économiques exacerbent les inégalités en matière de soins contre le cancer entre les régions européennes, ce qui souligne la nécessité de réponses politiques globales. La pandémie a aggravé

les inégalités sociales en matière de santé et perturbé la détection et le traitement du cancer, avec plus de 100 millions de dépistages manqués et des interventions chirurgicales et chimiothérapies retardées pour de nombreux Européens.

Vue d'ensemble des stratégies et mesures nationales de lutte contre le cancer

Avant l'adoption de l'EBCP en 2021, 22 États membres de l'UE, l'Islande et la Norvège avaient mis en place un plan national de lutte contre le cancer. Après l'adoption de l'EBCP, quatre pays ont élaboré leurs plans nationaux de lutte contre le cancer, tandis que 10 ont mis à jour leurs plans existants. De plus, au moment de la fin de notre analyse par pays (décembre 2023), trois pays mettaient à jour leurs plans. La majorité des plans de lutte contre le cancer se sont avérés bien alignés sur l'EBCP, couvrant ses quatre piliers. En revanche, les thèmes transversaux ont parfois été partiellement ou pas couverts par les plans nationaux contre le cancer.

En matière de prévention, tous les pays analysés ont inclus dans leurs plans nationaux des initiatives visant à s'attaquer aux habitudes de vie liées aux facteurs de risque de cancer, avec différents niveaux de rigueur. En ce qui concerne le dépistage précoce, tous les pays analysés ont mis en place des programmes nationaux de dépistage du cancer du sein, colorectal et du col de l'utérus, à quelques exceptions près (bien que ces exceptions aient mis en place des programmes de dépistage opportunistes ou privés). En outre, deux États membres de l'UE ont mis en place des programmes de dépistage du cancer du poumon, tandis qu'en réponse à la recommandation de l'EBCP, six autres États membres de l'UE ont mené ou ont prévu d'exécuter des programmes pilotes. En ce qui concerne le diagnostic et le traitement, les plans nationaux de lutte contre le cancer comprennent un large éventail d'initiatives visant à améliorer la qualité du diagnostic et du traitement. Parmi les éléments communs, on peut citer une plus grande participation des patients aux processus décisionnels et la formation continue des professionnels de la santé. En ce qui concerne la qualité de vie des patients atteints de cancer et des survivants du cancer, les initiatives incluses sont variées, notamment des actions de soutien financier pour les patients atteints de cancer et leurs aidants, un soutien psychologique aux patients atteints de cancer et à leurs proches, et la mise en place d'une législation sur le « droit à l'oubli ».

En ce qui concerne les thèmes transversaux de l'EBCP, de nombreux pays analysés ont mis en place des programmes et des plans d'action visant à promouvoir la recherche sur le cancer. Cependant, il y a des différences évidentes dans le financement de la recherche selon la taille du pays, l'infrastructure et la disponibilité de la main-d'œuvre. En termes de réduction des inégalités de cancer, notre analyse a montré que les disparités sont également préoccupantes entre les régions au sein des pays analysés, en particulier pour ceux qui disposent de compétences de santé décentralisées au niveau régional. En ce qui concerne les cancers pédiatriques, dans le cadre des plans nationaux de lutte contre le cancer analysés, il représente un domaine prioritaire dans certains cas, tandis que dans la majorité des cas, le cancer pédiatrique relève d'autres domaines prioritaires concernant les soins ou la qualité de vie.

Obstacles rencontrés

Qu'il s'agisse d'obstacles financiers, de défis politiques et institutionnels, d'obstacles comportementaux ou cliniques, toute une série de problèmes entravent la mise en œuvre des politiques nationales liées au cancer et les progrès en matière de prévention, de traitement et de soins du cancer. En outre, la pandémie de COVID-19 a encore exacerbé les défis existants, entraînant une redéfinition des priorités en matière de ressources, des retards dans les services de cancérologie et une augmentation des inégalités en matière de santé. Les obstacles mentionnés ci-dessus ont un impact différentiel sur les piliers et les thèmes transversaux de l'EBCP. Alors que les obstacles comportementaux affectent principalement la qualité de vie et les piliers de la prévention, les obstacles cliniques ont principalement une incidence sur la qualité de vie, le diagnostic et le traitement, ainsi que la détection précoce. Les obstacles financiers et institutionnels exercent toutefois une influence sur tous les piliers et les thèmes transversaux. Pour surmonter ces obstacles, il faut un effort concerté de la part des décideurs politiques, des professionnels de la santé, des organisations de la société civile et des parties prenantes de l'industrie pour assurer l'alignement, améliorer la collaboration et donner la priorité aux solutions innovantes.

Adéquation de l’EBCP

Malgré l'incidence croissante du cancer en Europe, les progrès de traitement améliorent les résultats et augmentent le nombre de survivants, ce qui nécessite des soins de suivi efficaces. L'EBCP a recueilli un large soutien pour ses objectifs ambitieux et son approche globale, abordant tous les aspects du continuum du cancer, mais la responsabilité ultime de l'action incombe aux gouvernements nationaux.

Malgré les efforts déployés par l'UE et les États pour réduire les inégalités, comme le lancement du registre européen des inégalités contre le cancer[5], celles-ci persistent dans tous les pays et toutes les régions, tous les groupes socio-économiques et à tous les stades de la trajectoire du cancer. Sur la base de notre analyse, nous estimons que des efforts supplémentaires pourraient nécessiter de cibler les groupes vulnérables, d'améliorer la littératie en santé et de s'attaquer aux déterminants socioéconomiques et commerciaux de la santé. De même, les actions liées à la prévention pourraient être renforcées pour améliorer la littératie en santé, compte tenu du fait que les progrès sont encore limités et que certains facteurs liés au mode de vie (par exemple, l'obésité) s'aggravent même. À cet égard, un récent appel à propositions visant à accroître la littératie en santé pour la prévention et le traitement du cancer a été lancé pour s'attaquer à ce problème[6].

Notre analyse indique également que les actions visant à fournir des soins de qualité et à garantir un personnel de santé de qualité pourraient être renforcées, car ces objectifs sont actuellement entravés par la pénurie de personnel de santé, le

[5] European Commission (undated). European Cancer Inequalities Registry. Available at: Link

[6] European Commission EU Funding & Tenders Portal. Call for Proposals to increase health literacy for cancer prevention and care - CR-g-24-39. EU4H-2024-PJ-02-2. Available at : Link

manque d'équipes multidisciplinaires et les problèmes d'accès aux médicaments oncologiques. Pour soutenir le thème transversal de la recherche et de l'innovation, une plus grande disponibilité et un meilleur partage des données pourraient être encouragés, ainsi qu'une collaboration accrue entre le milieu universitaire et l'industrie.

De nouvelles actions pourraient être nécessaires sur les cancers pédiatriques et la qualité de vie des patients et des survivants, car plusieurs aspects sont encore insuffisamment ou non couverts dans l'EBCP et dans les plans nationaux de lutte contre le cancer. De nouvelles actions peuvent également être nécessaires pour lutter contre la pénurie de personnel de santé, pour répondre aux besoins particuliers des patients âgés ou pour lutter contre les cancers rares, car ces domaines ne sont pas couverts par l'EBCP.

En outre, les leçons tirées de la pandémie, telles que l'importance de l'utilisation des données, de la télémédecine et des infrastructures hospitalières, soulignent la nécessité de s'adapter aux futures crises sanitaires.

Évaluation de l'état d'avancement des projets liés au cancer dans le cadre du programme EU4Health

L'examen des candidatures et des participants aux projets et actions de lutte contre le cancer financés au titre du programme EU4Health montre que tous les pays ont participé à au moins une action commune jusqu'en décembre 2023, à l'exception de trois pays. Les 27 États membres de l'UE, l'Islande et la Norvège sont également représentés parmi les participants aux appels à propositions et aux appels d'offres de projets, avec une participation plus élevée des établissements d'enseignement supérieur et secondaire ainsi que des organismes de recherche par rapport à d'autres types d'organisations. Les disparités observées en matière de participation, en particulier parmi les petites organisations et les États membres les moins riches, soulèvent d'importantes questions quant à l'équité et à l'inclusivité dans la distribution des fonds de l'UE.

Plusieurs défis ont été identifiés dans le processus de candidature au titre du programme EU4Health, allant de la lourdeur des exigences en matière de documentation (pour les actions communes et les appels à propositions) aux préoccupations concernant l'allocation des fonds et la formation de consortium (pour les appels à propositions et les appels d'offres), ce qui souligne la nécessité d'un examen attentif et d'une éventuelle révision de certains aspects du programme. Relever ces défis, par exemple au moyen de lignes directrices visant à faciliter le processus de candidature, ou d'une révision du régime de cofinancement afin d'augmenter la part de financement de l'UE, pourrait non seulement faciliter la collaboration et la mise en œuvre des projets, mais aussi contribuer à uniformiser les règles du jeu en termes de dispositions de l'EBCP et à remédier aux inégalités existantes dans l'UE. Il est important que des mesures soient prises pour faire en sorte que tous les États membres, quelle que soit leur taille ou leur capacité financière, aient des chances égales de s'engager dans des projets dans le domaine du cancer au titre du programme EU4Health, afin de maximiser le potentiel du programme à atteindre les buts et objectifs fixés dans le programme EBCP.

Certains obstacles à la mise en œuvre de projets dans le cadre du programme EU4Health ont également été soulignés par les organisations participantes. Ces obstacles étaient liés à la charge financière et administrative que les organisations doivent supporter pour participer à des projets et des actions (pour les actions communes et les projets issus des appels à propositions), ainsi qu'à la coordination limitée de divers projets interdépendants menés en parallèle (pour les actions communes et les projets issus des appels à propositions et des appels d'offres). Les caractéristiques spécifiques de chaque pays (par exemple, infrastructures limitées, pénurie de main-d'œuvre) peuvent également entraver les progrès au niveau national. La résolution de ces différents problèmes, par exemple par une meilleure coordination des services de la Commission entre les projets interdépendants, une diffusion accrue des résultats des projets, la standardisation des rapports financiers et la prise en compte des besoins particuliers des patients atteints de cancer ou des survivants pour les frais de voyage, garantirait une allocation plus efficace des fonds de l'UE et plus d'impact de la mise en œuvre des projets et des actions.

Cadre de suivi de l'EBCP

L'évaluation des progrès de l'EBCP au niveau européen nécessite un cadre de suivi complet qui combine l'utilisation de mesures qualitatives et quantitatives pour suivre le degré de mise en œuvre des actions, informer les ajustements stratégiques et évaluer les effets directs et à long terme de l'initiative. Alors que les indicateurs de réalisation et de résultat sont strictement liés à des actions spécifiques, les indicateurs d'impact reflètent les effets combinés des initiatives de l'EBCP ainsi que les impacts plus larges des tendances socio-économiques, démographiques et environnementales. Le cadre de suivi proposé dans cette étude s'appuie sur de nombreuses sources de données pour suivre chaque action de l'EBCP. Fait remarquable, l'analyse des exigences actuelles en matière de rapports suggère que les sources de données disponibles sont suffisantes pour calculer le système de mesures requis et qu'aucun mécanisme de rapport supplémentaire n'est nécessaire.

Zusammenfassung

Ziel und Umfang

Im Jahr 2020 wurden in Europa 2,7 Millionen Menschen mit Krebs diagnostiziert, und 1,3 Millionen Menschen starben an Krebs. Der im Februar 2021 verabschiedete Europa Plan gegen den Krebs (EBCP)[7] schlägt 42 Maßnahmen vor, darunter 10 Leitinitiativen zur Krebsbekämpfung in allen vier Schritten des Krebspfads (Prävention, Früherkennung, Diagnose und Behandlung sowie Lebensqualität von Krebspatienten und -überlebenden) und drei Querschnittsthemen (Forschung und Innovation, Ungleichheiten und Krebs bei Kindern).

Der Zweck der „Studie zur Gewinnung einer Übersicht und Bewertung der Umsetzung des Europa Plans gegen den Krebs“ besteht darin, die für Ende 2024 geplante Überprüfung des EBCPs zu unterstützen. Die konkreten Ziele der Studie sind:

- zu beurteilen, ob die auf EU- und Mitgliedstaatenebene ergriffenen Maßnahmen ausreichen, um die Ziele zu erreichen, oder ob zusätzliche Maßnahmen erforderlich sind;
- weitere Maßnahmen zu ermitteln, um die Bemühungen der Mitgliedstaaten zur Verringerung des durch Krebs verursachten Leidens zu unterstützen, zu koordinieren und zu ergänzen;
- die Ausgangsbasis und den Aufbau eines Überwachungsrahmens zur Bewertung der Ergebnisse des europäischen Plans zur Krebsbekämpfung zu setzen.

Methodischer Ansatz

Die Studie zielte darauf ab, eine Reihe von Untersuchungsfragen mithilfe einer Mischung aus qualitativen und quantitativen Methoden in den folgenden Aufgabenbereichen zu beantworten:

- **Aufgabe 1 „Zukunftssichere Analyse“** zielte darauf ab, die Relevanz des EBCPs im Hinblick auf aktuelle und erwartete zukünftige technologische, politische und gesellschaftliche Entwicklungen und Herausforderungen zu bewerten. Diese Aufgabe umfasste die Entwicklung der Interventionslogik des EBCPs, um die Zusammenhänge zwischen den identifizierten Problemen, den Zielen und Beiträgen des EBCPs, den damit verbundenen Aktivitäten/Ergebnissen und den erwarteten Ergebnissen und langfristigen

[7] Mitteilung der Kommission an das Europäische Parlament und den Rat - Europa Plan gegen den Krebs - COM(2021) 44 endgültig. Verfügbar unter: Link

Auswirkungen aufzuzeigen. Anschließend wurde eine umfassende Literaturrecherche durchgeführt, die akademische Veröffentlichungen, institutionelle und politische Dokumente sowie Positionspapiere umfasste. Darüber hinaus wurden 56 Interviews mit Interessenvertretern auf EU-Ebene geführt, darunter europäische Institutionen, Organisationen der Zivilgesellschaft, Berufsverbände des Gesundheitswesens, Verbände und Unternehmen der Gesundheitsbranche, aktuelle und ehemalige Mitglieder des *Cancer Mission Board*, Wissenschaftler, Interessenvertreter der *Cancer Stakeholder Contact Group* sowie internationale Organisationen.

- **Aufgabe 2 „Länderanalyse“** zielte darauf ab, die nationalen Krebsstrategien und -Maßnahmen in den verschiedenen Bereichen des EBCPs in den 27 EU-Mitgliedstaaten, Island und Norwegen, ihre Auswirkungen und die Hindernisse bei der Umsetzung sowie bewährte Verfahren und Bereiche für weitere Unterstützung und Koordinierung durch die EU abzubilden und zu analysieren. Diese Aufgabe umfasste eine Sekundärforschung nationaler strategischer politischer Dokumente und EU- oder internationaler Berichte und Repositorien von Maßnahmen sowie eine Überprüfung von Statistiken zu wichtigen Trends aus EU- und internationalen Datenbanken. Darüber hinaus wurde eine gezielte Online-Umfrage bei nationalen Interessenvertretern durchgeführt, bei der 82 Antworten von nationalen Behörden, Organisationen der Zivilgesellschaft, Berufsverbänden des Gesundheitswesens und Verbänden der Gesundheitsbranche gesammelt wurden. Die durch die nationale Sekundärforschung und die Umfrage gesammelten Informationen wurden analysiert und in 29 Länder-Factsheets zusammengefasst, die die nationale Krebsstrategie, die in den letzten fünf Jahren in den vier Säulen und drei Querschnittsthemen des EBCPs umgesetzten Maßnahmen, eine Entwicklung der Situation und die wichtigsten Hindernisse bei der Umsetzung krebsbezogener Maßnahmen abdecken.

- **Aufgabe 3 „Bewertung des Fortschritts“** zielte darauf ab, den Antragsprozess und die Umsetzung von krebsbezogenen Projekten zu untersuchen, die im Rahmen des EU4Health-Programms finanziert werden. Dies beinhaltete die Überprüfung und Analyse der Anzahl, Art und geografischen Basis der Antragsteller und Teilnehmer an gemeinsamen Aktionen, Aufforderungen zur Einreichung von Vorschlägen und Ausschreibungen in den vier Säulen des EBCPs (Prävention, Früherkennung, Diagnose und Behandlung, Lebensqualität von Krebspatienten und Überlebenden). Darüber hinaus wurden unter jeder Säule unterschiedliche Projekttypen (d. h. mindestens eine gemeinsame Aktion, ein Projektzuschuss und ein Beschaffungsvertrag, soweit möglich) ausgewählt, um anhand von Fallstudien, Schreibtischforschung und Interviews mit teilnehmenden Organisationen und betroffenen Interessengruppen eingehender bewertet zu werden.

- **Aufgabe 4 „Überwachungsrahmen“** zielte darauf ab, einen Überwachungsrahmen für den EBCP zu erstellen. Diese Aufgabe umfasste die Definition des Umfangs des Überwachungsrahmens, die Überprüfung bestehender Berichtsanforderungen und Datenquellen auf der Grundlage von Schreibtischforschung und Interviews mit Interessengruppen, die Durchführung einer Lückenanalyse und die Entwicklung des Rahmens für die Überwachung mit Output-, Ergebnis- und Wirkungsindikatoren für die 42 Aktionen des EBCPs.

- **Aufgabe 5 „Fokusgruppen und Workshops“** hatte das Ziel, die sich aus der Studie ergebenden Erkenntnisse mit Experten und Interessenvertretern vorzustellen und zu diskutieren, Feedback zu erhalten und die Analyse zu verfeinern. Mit dem für die Studie ernannten Gremium aus acht Experten wurden vier Online-Fokusgruppen organisiert, um die vorläufigen Ergebnisse der Aufgaben 1, 2, 3 und 4 zu diskutieren. Zusätzlich wurden zwei Hybrid-Workshops abgehalten, um jeweils die Ergebnisse der Aufgaben 1 und 2 beim ersten Workshop und die Ergebnisse der Aufgaben 3 und 4 beim zweiten Workshop vorzustellen. An jedem Workshop nahmen rund 100 Teilnehmer teil, die alle Kategorien von Interessenvertretern abdeckten, die im Laufe der Studie konsultiert wurden.

- **Aufgabe 6 „Synthese und Berichterstattung“** zielte darauf ab, die Erkenntnisse aus den verschiedenen Aufgaben der Studie zu triangulieren und zu analysieren, um die Studienfragen zu beantworten und solide Schlussfolgerungen und Empfehlungen zu ziehen.

Hauptergebnisse der Studie

Ausgangsituation

Die Bewertung der Ausgangssituation anhand der vier Säulen des EBCPs zeigte, dass die Situation in den Mitgliedstaaten vor der Annahme des EBCPs kontrastierend war.

Die Landschaft der Krebsprävention in den EU-Mitgliedstaaten ist komplex. Was die Tabakkontrolle betrifft, weisen einige Länder hohe Raten täglicher Raucher auf, was die Umsetzung strengerer Tabakkontrollrichtlinien erforderlich macht, während andere Länder sich durch erfolgreiche Tabakkontrollmaßnahmen auszeichnen und einige der niedrigsten Raucherquoten in der EU aufweisen. Ebenso gab es unterschiedliche Ergebnisse beim Alkoholkonsum. Die Bekämpfung von Fettleibigkeit und die Förderung körperlicher Aktivität stellen in der gesamten EU erhebliche Herausforderungen dar, da in mehreren Mitgliedstaaten hohe Fettleibigkeitsraten verzeichnet werden. Darüber hinaus besteht in einigen Ländern weiterhin unzureichendes Engagement in körperlicher Aktivität, was umfassende

Strategien erfordert, um diese Trends umzukehren und künftigen Krebsfällen vorzubeugen. Umweltverschmutzung und Berufsrisiken tragen ebenfalls erheblich zum Krebsrisiko bei, wobei einige Länder mit höheren Luftverschmutzungswerten konfrontiert sind, während Bemühungen zur Verringerung der beruflichen Belastung mit Karzinogenen ein größeres Engagement von Ländern mit höheren Raten arbeitsbedingter Krebstodesfälle erfordern. Mit Krebs verbundene Infektionen wie Hepatitis B, HPV und Helicobacter pylori stellen zusätzliche Herausforderungen dar, da es Unterschiede in der Abdeckung zwischen den Mitgliedstaaten gibt, insbesondere bei Frauen und in bestimmten Regionen.

Es bestehen erhebliche Unterschiede bei der Umsetzung und Teilnahmequote von Screening-Programmen zwischen den EU-Mitgliedstaaten, was den dringenden Bedarf an standardisierten Ansätzen und einer stärkeren Sensibilisierung der Öffentlichkeit unterstreicht. Die Verfügbarkeit und Nutzung von Screening-Programmen für Brust-, Gebärmutterhals- und Dickdarmkrebs variiert stark zwischen den EU-Ländern. Besonders besorgniserregend ist die vergleichsweise geringere Nutzung von Dickdarmkrebs-Screenings in den meisten europäischen Ländern, was die Notwendigkeit unterstreicht, die Screening-Bemühungen auszuweiten und den Zugang zu Screening-Tests zu verbessern.

In Bezug auf Diagnose und Behandlung zeigen Unterschiede beim Zugang zu Strahlentherapiediensten zwischen den EU-Mitgliedstaaten, dass strategische Investitionen erforderlich sind, um bestehende Lücken zu schließen und allen Patienten einen gleichberechtigten Zugang zu Krebsbehandlungen zu gewährleisten.

Schließlich haben Fortschritte bei der Früherkennung, therapeutischen Eingriffen und unterstützenden Pflege die Krebsüberlebensraten in der gesamten EU deutlich verbessert. Allerdings schwankt die Belastung durch Krebserkrankungen, gemessen in behinderungsbereinigten Lebensjahren (*disability-adjusted life years* - DALYs), in den Mitgliedstaaten erheblich, was die Unterschiede in der Lebensqualität von Krebspatienten und Überlebenden widerspiegelt.

Entwicklungen, die für die Krebsbekämpfung seit der Verabschiedung des EBCPs relevant sind

Seit der Verabschiedung des EBCPs sind Fortschritte in der Krebsforschung und bei Behandlungsmethoden zu verzeichnen, die durch technologische Innovationen vorangetrieben wurden. Zu den Stärken Europas zählen Fortschritte bei Krebsimpfstoffen, mRNA-Therapeutika und Präzisionsmedizin, die die Früherkennung und personalisierte Behandlung verbessern. Darüber hinaus versprechen künstliche Intelligenz (KI) und die Integration digitaler Gesundheit Diagnose und Effizienz im Gesundheitswesen. Die COVID-19-Pandemie beschleunigte auch die Entwicklung der Medizintechnik und betonte die entscheidende Rolle einer datengesteuerten Politikgestaltung.

Mehrere politische Initiativen sind relevant, um zur Erreichung der Ziele des EBCPs beizutragen. Im Rahmen des europäischen Green Deals zielt die Strategie „Vom Hof auf den Tisch“ darauf ab, gesunde Ernährung zu fördern, um Fettleibigkeit und die Verbreitung von Krankheiten wie Krebs zu reduzieren. Der Aktionsplan „Null

Umweltverschmutzung“ umfasst verschiedene Maßnahmen zur Verringerung der Zahl vorzeitiger Todesfälle durch Luftverschmutzung. Darüber hinaus zielt die Arzneimittelstrategie darauf ab, die Arzneimittelgesetzgebung zu überarbeiten, um den Zugang zu erschwinglichen Medikamenten, die Wettbewerbsfähigkeit der europäischen Pharmaindustrie und die Krisenvorsorge sicherzustellen.

Jüngste gesellschaftliche Trends können jedoch das Auftreten von Krebs und das Bewusstsein dafür in Europa erheblich beeinflussen. Bei schädlichen Verhaltensweisen wie Tabak- und Alkoholkonsum bestehen weiterhin Unterschiede, und neue Produkte wie E-Zigaretten erschweren den Erfolg von Kontrollmaßnahmen. Die Fettleibigkeitsraten steigen weiter an und tragen zu einer erheblichen Krebsbelastung bei. Die arbeitsbedingte Belastung mit Karzinogenen bleibt ein Problem und erfordert koordinierte Maßnahmen zum Schutz der Arbeitnehmer. Darüber hinaus bringt der Klimawandel neue Herausforderungen mit sich, die sich auf das Krebsrisiko und den Zugang zur Gesundheitsversorgung auswirken. Sozioökonomische Unterschiede verschärfen die Ungleichheiten bei der Krebsbehandlung in den europäischen Regionen und unterstreichen die Notwendigkeit umfassender politischer Maßnahmen. Die Pandemie hat die sozialen Gesundheitsungleichheiten verschärft und die Krebserkennung und -behandlung unterbrochen, da über 100 Millionen Vorsorgeuntersuchungen verpasst und Operationen und Chemotherapien für viele Europäer verschoben wurden.

Überblick über nationale Krebsstrategien und -Maßnahmen

Vor der Verabschiedung des EBCPs im Jahr 2021 verfügten 22 EU-Mitgliedstaaten, Island und Norwegen über einen nationalen Krebsplan. Nach der Verabschiedung des EBCPs entwickelten vier Länder ihre nationalen Krebspläne, während zehn ihre bestehenden Pläne aktualisierten. Darüber hinaus aktualisierten bis zum Ende unserer Länderanalyse (Dezember 2023) drei Länder ihre Pläne. Die Mehrheit der Krebspläne war gut auf den EBCP abgestimmt und deckte dessen vier Säulen ab. Andererseits wurden die Querschnittsthemen manchmal nur teilweise oder gar nicht von den nationalen Krebsplänen abgedeckt.

Zur Prävention haben alle analysierten Länder Initiativen zur Bekämpfung von Lebensgewohnheiten im Zusammenhang mit Krebsrisikofaktoren in ihre nationalen Pläne aufgenommen, mit unterschiedlicher Strenge. Zur Früherkennung hatten alle analysierten Länder mit wenigen Ausnahmen nationale Krebsvorsorgeprogramme für Brust-, Dickdarm- und Gebärmutterhalskrebs eingeführt (obwohl in den Ausnahmen entweder opportunistische oder private Vorsorgeprogramme verfügbar waren). Darüber hinaus hatten zwei EU-Mitgliedstaaten Lungenkrebs-Screening-Programme eingeführt, während sechs weitere EU-Mitgliedstaaten als Reaktion auf die Empfehlung des EBCP-Pilotprogrammes durchführten oder planten. In Bezug auf Diagnose und Behandlung enthielten die nationalen Krebspläne eine breite Palette von Initiativen zur Verbesserung der Qualität von Diagnose und Behandlung. Einige gemeinsame Elemente waren eine stärkere Beteiligung der Patienten an Entscheidungsprozessen und die kontinuierliche Weiterbildung von medizinischem Fachpersonal. Zur Verbesserung der Lebensqualität von Krebspatienten und Überlebenden umfassten die Initiativen unterschiedliche Maßnahmen, darunter Maßnahmen zur finanziellen Unterstützung von

Krebspatienten und Pflegekräften, zur Bereitstellung psychologischer Unterstützung für Krebspatienten und Verwandte sowie die Einführung eines Gesetzes zum „Recht auf Vergessen“.

In Bezug auf die Querschnittsthemen des EBCPs hatten viele der analysierten Länder Programme und Aktionspläne zur Förderung der Krebsforschung eingeführt. Es gab jedoch deutliche Unterschiede bei der Forschungsfinanzierung je nach Größe des Landes und der damit verbundenen Infrastruktur und Verfügbarkeit von Arbeitskräften. In Bezug auf die Verringerung der Ungleichheiten im Zusammenhang mit Krebs zeigte unsere Analyse, dass Unterschiede auch zwischen den Regionen innerhalb der analysierten Länder ein Problem darstellen, insbesondere für diejenigen mit dezentralisierten Gesundheitskompetenzen auf regionaler Ebene. In einigen Fällen stellte Kinderkrebs in den analysierten nationalen Krebsplänen einen Schwerpunktbereich dar, in den meisten Fällen fiel er jedoch unter andere Schwerpunktbereiche der Pflege oder Lebensqualität.

Erlebte Hindernisse

Von finanziellen Barrieren über politische und institutionelle Herausforderungen bis hin zu verhaltensbedingten und klinischen Hindernissen gibt es eine Reihe von Problemen, die die Umsetzung nationaler krebsbezogener Richtlinien und den Fortschritt bei der Krebsprävention, -behandlung und -versorgung behindern. Darüber hinaus hat die COVID-19-Pandemie bestehende Herausforderungen noch verschärft und zu einer Neu-Priorisierung der Ressourcen, Verzögerungen bei der Krebsversorgung und zunehmenden Gesundheitsungleichheiten geführt. Die oben genannten Barrieren haben unterschiedliche Auswirkungen auf die Säulen und Querschnittsthemen des EBCPs. Während verhaltensbedingte Barrieren vor allem die Säulen Lebensqualität und Prävention beeinträchtigen, wirken sich klinische Barrieren in erster Linie auf Lebensqualität, Diagnose und Behandlung sowie Früherkennung aus. Finanzielle und institutionelle Barrieren wirken sich jedoch auf alle Säulen und Querschnittsthemen aus. Die Beseitigung dieser Barrieren erfordert konzertierte Anstrengungen von politischen Entscheidungsträgern, medizinischem Fachpersonal, zivilgesellschaftlichen Organisationen und Branchenakteuren, um eine Abstimmung sicherzustellen, die Zusammenarbeit zu verbessern und innovativen Lösungen Priorität einzuräumen.

Angemessenheit des EBCPs

Trotz der steigenden Krebserkrankungen in Europa verbessern Fortschritte in der Behandlung die Ergebnisse und erhöhen die Zahl der Überlebenden, was eine wirksame Nachsorge erforderlich macht. Der EBCP hat breite Unterstützung für seine ehrgeizigen Ziele und seinen umfassenden Ansatz erhalten, der alle Aspekte des Krebskontinuums berücksichtigt, doch die letztendliche Verantwortung für Maßnahmen liegt bei den nationalen Regierungen.

Trotz der Bemühungen der EU und der einzelnen Länder, Ungleichheiten zu verringern, wie etwa der Einführung des Europäischen Registers für Ungleichheiten bei Krebs[8], bestehen diese weiterhin in allen Ländern und Regionen, sozioökonomischen Gruppen und den verschiedenen Stadien des Krebsverlaufs. Auf der Grundlage unserer Analyse sind wir der Ansicht, dass zusätzliche Anstrengungen erforderlich sein könnten, um gefährdete Gruppen anzusprechen, die Gesundheitskompetenz zu verbessern und die sozioökonomischen und kommerziellen Determinanten der Gesundheit anzugehen. Ebenso könnten die Maßnahmen im Zusammenhang mit der Prävention verstärkt werden, um die Gesundheitskompetenz zu stärken, da die Fortschritte noch immer begrenzt sind und einige Lebensstilfaktoren (z. B. Fettleibigkeit) sich sogar noch verschlimmern. In diesem Zusammenhang wurde kürzlich eine Aufforderung zur Einreichung von Vorschlägen zur Verbesserung der Gesundheitskompetenz für die Krebsprävention und -behandlung gestartet, um dieses Problem anzugehen[9].

Unsere Analyse zeigt auch, dass Maßnahmen zur Bereitstellung einer qualitativ hochwertigen Versorgung und zur Sicherstellung eines qualitativ hochwertigen Gesundheitspersonals verstärkt werden könnten, da diese Ziele derzeit durch den Mangel an Gesundheitspersonal, den Mangel an multidisziplinären Teams und Probleme beim Zugang zu onkologischen Medikamenten behindert werden. Um das Querschnittsthema Forschung und Innovation zu unterstützen, könnten die Verfügbarkeit und der Austausch von Daten sowie die weitere Zusammenarbeit zwischen Wissenschaft und Industrie gefördert werden.

Möglicherweise sind neue Maßnahmen in Bezug auf Krebserkrankungen bei Kindern und die Lebensqualität von Patienten und Überlebenden erforderlich, da mehrere Aspekte im EBCP und in nationalen Krebsplänen noch unzureichend oder nicht abgedeckt sind. Möglicherweise sind auch neue Maßnahmen erforderlich, um den Mangel an Gesundheitspersonal zu beheben, den besonderen Bedürfnissen älterer Patienten gerecht zu werden oder seltene Krebsarten anzugehen, da diese Bereiche im EBCP nicht abgedeckt sind.

Darüber hinaus unterstreichen Lehren aus der Pandemie, wie die Bedeutung der Datennutzung, der Telemedizin und der Krankenhausinfrastruktur, die Notwendigkeit einer Anpassung des EBCPs an zukünftige Gesundheitskrisen.

Bewertung des Fortschritts bei krebsbezogenen Projekten im Rahmen des EU4Health Programms

Die Überprüfung der Anträge und Teilnehmer an Krebsprojekten und -Maßnahmen, die im Rahmen des EU4Health Programms gefördert werden, zeigt, dass alle

[8] European Commission (undated). European Cancer Inequalities Registry. Available at: Link

[9] European Commission EU Funding & Tenders Portal. Call for Proposals to increase health literacy for cancer prevention and care - CR-g-24-39. EU4H-2024-PJ-02-2. Available at : Link

Länder, mit Ausnahme von drei Ländern, bis Dezember 2023 an mindestens einer gemeinsamen Aktion teilgenommen haben. Alle 27 EU-Mitgliedstaaten, Island und Norwegen sind auch unter den Teilnehmern an Projektzuschüssen und -ausschreibungen vertreten, wobei die Beteiligung von Hochschulen und weiterführenden Bildungseinrichtungen sowie Forschungsorganisationen im Vergleich zu anderen Arten von Organisationen höher ist. Die beobachteten Unterschiede bei der Teilnahme, insbesondere bei kleineren Organisationen und weniger wohlhabenden Mitgliedstaaten, werfen wichtige Fragen hinsichtlich der Fairness und Inklusivität bei der Verteilung von EU-Mitteln auf.

Im Rahmen des EU4Health Programms wurden im Antragsverfahren mehrere Herausforderungen festgestellt, die vom Aufwand der Dokumentationsanforderungen (für gemeinsame Aktionen und Projektzuschüsse) bis zu Bedenken hinsichtlich der Mittelzuweisung und Konsortialbildung (für Projektzuschüsse und Beschaffungsverträge) reichen und die Notwendigkeit einer sorgfältigen Prüfung und möglichen Überarbeitung bestimmter Aspekte des Programms unterstreichen. Die Bewältigung dieser Herausforderungen, beispielsweise durch Richtlinien zur Vereinfachung des Antragsverfahrens oder eine Überarbeitung des Ko-Finanzierungssystems zur Erhöhung des EU-Finanzierungsanteils, kann nicht nur eine reibungslosere Zusammenarbeit und Projektumsetzung ermöglichen, sondern auch dazu beitragen, gleiche Wettbewerbsbedingungen im Hinblick auf die Bestimmungen des EBCPs zu schaffen und bestehende Ungleichheiten in der EU zu beseitigen. Es ist wichtig, dass Maßnahmen ergriffen werden, um sicherzustellen, dass alle Mitgliedstaaten, unabhängig von ihrer Größe oder Finanzkraft, gleiche Chancen haben, sich an Projekten im Rahmen des EU4Health-Programms im Bereich Krebs zu beteiligen, um so das Potenzial des Programms zur Erreichung der im EBCP festgelegten Ziele zu maximieren.

Die teilnehmenden Organisationen haben auch auf einige Hindernisse bei der Projektumsetzung im Rahmen des EU4Health-Programms hingewiesen. Diese Hindernisse beziehen sich auf den finanziellen und administrativen Aufwand, den die Organisationen auf sich nehmen müssen, um an Projekten und Maßnahmen teilzunehmen (bei gemeinsamen Maßnahmen und Projektzuschüssen), sowie auf die eingeschränkte Koordinierung verschiedener miteinander verflochtener, parallel-laufender Projekte (bei gemeinsamen Maßnahmen, Projektzuschüssen und Beschaffungsverträgen). Spezifische Ländermerkmale (z. B. begrenzte Infrastruktur, Arbeitskräftemangel) können Fortschritte auf nationaler Ebene ebenfalls behindern. Die Bewältigung dieser verschiedenen Probleme, beispielsweise durch eine bessere Koordinierung der Kommissionsdienststellen zwischen miteinander verknüpften Projekten, eine verstärkte Verbreitung der Projektergebnisse, eine Standardisierung der Finanzberichterstattung und die Berücksichtigung der besonderen Bedürfnisse von Krebspatienten oder Überlebenden bei den Reisekosten, würde eine effizientere Zuweisung der EU-Mittel und eine wirksamere und wirkungsvollere Umsetzung der Projekte und Maßnahmen gewährleisten.

Überwachungsrahmen des EBCPs

Zur Beurteilung des Fortschritts des EBCPs auf europäischer Ebene ist ein umfassender Überwachungsrahmen erforderlich, der qualitative und quantitative Kennzahlen kombiniert, um den Umsetzungsgrad der Maßnahmen zu verfolgen, strategische Anpassungen vorzunehmen und die direkten und langfristigen Auswirkungen der Initiative zu beurteilen. Während Output- und Ergebnisindikatoren streng an bestimmte Maßnahmen gebunden sind, spiegeln Wirkungsindikatoren die kombinierten Auswirkungen der Initiativen des EBCPs sowie die umfassenderen Auswirkungen sozioökonomischer, demografischer und ökologischer Trends wider. Der in dieser Studie vorgeschlagene Überwachungsrahmen stützt sich auf zahlreiche Datenquellen, um jede Maßnahme des EBCPs zu überwachen. Bemerkenswerterweise legt die Analyse der bestehenden Berichtsanforderungen nahe, dass die verfügbaren Datenquellen ausreichen, um das erforderliche Kennzahlensystem zu berechnen, und dass keine zusätzlichen Berichtsmechanismen erforderlich sind.

1. Introduction

1.1. Objectives and scope

Europe's Beating Cancer Plan (hereinafter "EBCP" or "the Plan")[10], adopted in February 2021, proposes actions across four steps of the cancer pathway, i.e. prevention, early detection, diagnosis and treatment, and quality of life of cancer patients and survivors, and three cross-cutting themes, i.e. research and innovation, inequalities, and paediatric cancers. The Plan is supported by 10 flagship initiatives and 32 additional actions.

The purpose of the specific contract 'Study on mapping and evaluating the implementation of the Europe's Beating Cancer Plan' is to support the review of the EBCP, planned by the end of 2024. Its specific objectives are:

- to assess whether the actions taken at EU and Member State levels are sufficient to achieve the objectives, or whether additional measures are necessary;
- to identify further actions to support, coordinate and complement Member States' efforts to reduce the suffering caused by cancer;
- to set the baseline and build a monitoring framework to assess the outcomes of the Europe's Beating Cancer Plan.

The temporal scope of the study is the period since the adoption of the EBCP, as well as the expected developments and needs for the next 10 years.

The geographical scope is the EU-27 plus Norway and Iceland.

1.2. Methodological approach

The methodological approach for this Study is based on the analytical framework included in Annex 2, which operationalises the study questions into sub-questions and provide indicators and data collection methods. In the following section, we briefly present the activities conducted under the different tasks of the Study.

Task 1: Future-proofing analysis

Task 1 aimed at analysing the relevance of the EBCP with regard to new and future technological, political and societal developments and challenges. The objective of this task was to identify new and anticipated future technological, political and

[10] Communication from the Commission to the European Parliament and the Council Europe's Beating Cancer Plan COM(2021) 44 final. Available at: Link

societal developments relevant for fighting cancer and the objectives and actions of the EBCP that need to be strengthened or prioritised to address these developments.

As a first step, we developed the **intervention logic** for the EBCP, showing the links between the problems identified, the objectives and input as well as the expected output, outcome and impact, based on the analysis of the EBCP, its annex and implementation roadmap, and additional desk research.

Then, a **literature review** was conducted following systematic principles. This included running specific search strings in various academic databases (EBSCO Business Source Complete, ISI web of Science and Scopus) to identify relevant literature published in academic journals. Beside the search on academic databases, additional sources were also identified through desk research, including works and publications from "grey" sources, search engines, institutional websites and snowballing from identified relevant literature. Following screening, 76 sources meeting the objectives of the review were retrieved and reviewed in-depth. Of these, 57 were scientific publications, 18 were institutional public reports and position papers, and one was a policy document. The full list of literature is available in Annex 1.

To complement the findings from the literature review, a total of 56 semi-structured **interviews** were conducted with a wide range of EU-level stakeholders including European institutions, civil society organisations (including public health non-governmental organisations (NGOs), patient associations, non-profit research organisation), healthcare professional organisations, health industry associations and companies, current and former members of the Cancer Mission board, academia, stakeholders from the Cancer stakeholder contact group[11], as well as international organisations. The full list of organisations interviewed is presented in Annex 3.

Task 2: Country analysis

Task 2 aimed at gathering information on the relation between national policies/measures and the EBCP. The objective of this task was to map and analyse the national cancer strategies, policies and related measures, their impacts and the barriers experienced, good practices and areas for further EU support and coordination.

This task involved extensive **desk research** to collect information on the national cancer strategies and measures implemented at national level up to December 2023, through a review of key EU and international reports and repositories of measures[12] combined with an analysis of national strategic policy documents and

[11] European Commission (2021). Call for participants: Commission Stakeholder Contact Group on Europe's Beating Cancer Plan. Available at: Link

[12] Including the OECD Cancer Country Profiles, the OECD Country Health Profiles, the Country Health System Reviews from the European Observatory of Health Systems and Policies, the Nourishing and Moving policy database from the World Cancer Research Fund International.

reports for the 27 EU Member States, Iceland and Norway. In addition, we conducted a review of EU, international and national statistics[13] to collect evidence on the baseline situation and evolution across the four pillars of the EBCP and three cross-cutting themes. All sources used for the national desk research are presented in the 29 country factsheets (see Annex 5).

A **targeted online survey** was conducted with national stakeholders across the 27 EU Member States, Iceland and Norway, targeting four national stakeholders per country, including at least one national authority, one civil society organisation (CSO), one healthcare professional association and one industry association. The survey contained a mix of closed and open questions, asking national stakeholders about the measures in place at national level across the four pillars and three cross-cutting themes of the EBCP as well as the barriers to implementation and recommended further role of the Commission. The survey was disseminated by direct email invitations based on an extensive mapping of national stakeholders. In addition, we asked EU level associations interviewed in Task 1 to share the survey with their national members. The Commission also disseminated the survey to the national authorities that are part of the Cancer sub-group and to the stakeholders that are members of the Cancer stakeholder contact group. The survey ran online for twelve weeks via the EUSurvey tool. The limitations and mitigation measures are described at the end of this section. A total of 82 responses were received from national stakeholders in the targeted survey. An overview of the responses received per country and stakeholder groups is presented in Annex 4.

Based on the findings of the desk research and the survey, we prepared **country factsheets** for the EU 27 Member States, Iceland and Norway, covering the national cancer strategy, the policies implemented in the last five years across the four pillars and three cross-cutting themes of the EBCP, an evolution of the situation, and the main barriers to the implementation of cancer-related measures. The full country factsheets are presented in Annex 5 while Section 2.2 presents the baseline situation at EU level, Section 2.4 presents the analysis of national policies and Section 2.5 the main barriers. The information on barriers is based on the findings from the survey complemented by desk research, while the good practices are based on the survey with national stakeholders as well as the interviews with EU level stakeholders from Task 1. For countries where no response was received in the targeted survey, additional desk research was conducted to identify relevant barriers in the country factsheets.

Task 3: Evaluation of progress

The objective of Task 3 was to investigate, through case studies, the potential effectiveness of actions and projects in the field of cancer funded under the EU4Health Programme in each of the four pillars of the EBCP.

[13] Including the European Cancer Information System (ECIS), the European Cancer Inequalities Registry (ECIR), Eurostat, the World Health Organisation (WHO), the Global Burden of Disease Collaborative Network.

Following a review of the projects awarded under each pillar of the EBCP, the selection of projects to be covered in the case studies was based on the following criteria:

- Different funding mechanisms covered: We have selected projects which have been granted via project grants, tenders and Joint Actions.
- Advanced status of implementation: In order to provide an adequate analysis of the projects, we selected projects that had been running for the longest time.
- Geographical coverage: The selected projects have a representative geographical distribution in terms of participant organisations.

The results of the case studies are based on a review of the number of applications received by HaDEA and DG SANTE up to December 2023, desk research on the awarded projects and interviews with participating organisations and impacted stakeholders. The full case studies are included in Annex 6, while Section 3 presents key findings across case studies on the results of the applications, barriers and lessons learnt in the application process and in the implementation of the projects and actions.

Task 4: Monitoring framework

The aim of Task 4 was to build a monitoring framework for the EBCP. After defining the scope of the monitoring framework, we reviewed existing reporting requirements and data sources based on desk research and interviews with stakeholders, conducted a gap analysis, and developed the outline of the monitoring framework. The monitoring framework includes output, result and impact indicators across the 42 actions of the EBCP with their proposed unit of measurement, source, baseline and target. In line with the Better Regulation Toolbox, the proposed indicators had to be relevant, accepted, credible, easy to monitor and robust. The results of Task 4 are presented in Section 4 while the comprehensive monitoring framework is included in Annex 7.

Task 5: Focus groups and workshops

The objective of Task 5 was to present and discuss emerging findings from the study with experts and stakeholders, to receive feedback and refine the analysis.

Four **online focus groups** were organised with the panel of eight experts appointed for the study, in order to discuss the preliminary results of Tasks 1, 2, 3 and 4 respectively. The panel of experts presents multidisciplinary expertise across the cancer pathway and from different standpoints (academia, healthcare professionals, civil society, pharmaceutical industry). The names of the members of the expert panel are acknowledged at the beginning of this report. The first focus group was held on 5 October 2023 and focused on the results of Task 1 (future proofing analysis). The second focus group took place on 12 October 2023 and covered the

results of Task 2 (country analysis). The third focus group was held on 7 February 2024 and presented the results of Task 3 (assessment of the application process and implementation of cancer-related projects funded under the EU4Health programme). The fourth focus group took place on 21 February 2024 and focused on the results of Task 4 (monitoring framework of the EBCP). The summaries of the focus group discussions and lists of participants are presented in Annex 8. The feedback received during the focus groups was used to refine, correct and complement the analysis of the respective tasks.

Two hybrid **workshops** were organised to present the preliminary findings of the study to a wide range of stakeholders. Both held in Brussels with the possibility to join online, the first workshop on 6 November 2023 presented the findings of Tasks 1 and 2, while the second workshop on 18 April 2024 presented the results of Tasks 3 and 4. Each workshop gathered around 100 participants. The invitees to the workshop include all stakeholders contacted under the tasks of the study (for the interviews, survey, case studies), as well as the study team and panel of experts, DG SANTE and HaDEA. The agenda, participants and summary of the discussions of the two workshops are presented in Annex 9.

Task 6: Synthesis and reporting

In this last task, we triangulated and analysed the findings from the different tasks of the study to address the study questions and draw robust conclusions and recommendations.

Limitations and mitigation measures

Regarding the country analysis (Task 2), it should be noted that the information on the national measures against cancer reported in the country factsheets and Section 2.4 may not be fully exhaustive as it relies on the desk research and the survey, and only public initiatives are presented. Moreover, the cut-off time for the initiatives included in the analysis is December 2023. Nevertheless, the country factsheets have been sent for review to the national authorities that are part of the expert sub-group on cancer to ensure accuracy of the information, and the majority of national authorities provided feedback on the country factsheets, which was taken onboard.

To mitigate the fact that the survey was launched on 18 July and was running during the summer period, we extended the deadline until 12 October. To address the low response rate, we sent several rounds of reminders and contacted a significant number of additional stakeholders. Despite these efforts, no response was received from stakeholders from Czechia and Norway. For these countries, the information in the country factsheets and the analysis in Section 2.4 are based on desk research. The survey also registered a lower number of responses from national health industry associations compared to the other stakeholder groups. However, the responses from the other stakeholder groups provided sufficient evidence on the national measures implemented, and the views of the health industry were also

captured during the interviews conducted under Task 1 with several EU associations representing the health industry and some large individual pharmaceutical and health technology companies.

The different mitigation measures above ensured to collect sufficient evidence from different sources to guarantee the comprehensiveness and robustness of the analysis.

2. Assessment of the EBCP adequacy and implementation

2.1. Intervention logic

Two main problems have been initially identified as major challenges, leading to the need for the EBCP:

- One problem is the **high cancer incidence**, with 2.7 million people diagnosed with cancer in the EU in 2020.
    - The high number of cancer patients is driven by a lack of awareness of cancer risks.
    - A related driver is the prevalence of harmful behaviours (e.g. on smoking, alcohol consumption, diet and physical activity). For instance, in 2019, 16.5% of the EU population was affected by obesity[14], 18.4% of the EU population smoked daily.[15]
    - Another driver is the exposure to environmental risks (e.g. air pollution, radiation) and infections. For example, 8.9 deaths per 100,000 population were attributed to occupational carcinogens[16].
- A second problem is the **high cancer mortality**, amounting to 1.3 million in the EU in 2020[17].
    - One driver for this problem is the suboptimal screening rates in some countries, socio-economic groups and cancer types, resulting in late diagnosis and more difficult treatment.
    - Another driver is the barriers to access quality care across territories and socio-economic groups, due to uneven health systems and infrastructures around the EU. For example, the number of oncologists per 100,000 inhabitants ranges from 1.2 in France to 6 in Hungary in 2018[18], or the number of radiotherapy equipment per 100,000 inhabitants ranges from 0.39 in Romania to 1.25 in Denmark in 2020[19].

[14] Eurostat (2019). Body mass index. Available at: Link

[15] Eurostat (2022). Daily smokers of cigarettes. Available at: Link

[16] Global Burden of Disease Collaborative Network (2019). Global Burden of Disease Study. Available at: Link

[17] Communication from the Commission to the European Parliament and the Council Europe's Beating Cancer Plan COM(2021) 44 final. Available at: Link

[18] Mathew A. (2018). Global Survey of Clinical Oncology Workforce. Available at: Link

[19] Eurostat (2024). Medical technology. Available at: Link

- Another driver is the suboptimal development and uneven take-up of innovative treatments and tools, with for example Germany having the highest number of oncology medicines that received approval from the European Medicines Agency (EMA) between 2018 and 2021 available on the market (45 of 46 EMA approved oncology medicines), while Malta only had one of the 46 oncology medicines recently approved by the EMA on the market[20].

- The differences in health infrastructures and take-up of innovative medicines and treatments are linked to the fragmentation of national health policies, welfare regimes and health budgets, which saw their weaknesses exacerbated during the COVID-19 pandemic.

The consequence of these problems is the **high socio-economic impact of cancer**, estimated to exceed EUR 100 billion annually[21]. This results from the increasing cancer incidence, with the associated costs of treatment, and the cancer mortality. This impact is also driven by the negative implications of cancer on quality of life of patients and survivors, including on their physical and mental well-being, their productivity and their socio-economic independence.

In this context, the **general objective** of the Plan is to provide a renewed commitment to cancer prevention, screening, treatment and care that recognises the growing challenges, and opportunities to overcome them, including the developments in cancer care. The **specific objectives** of the Plan are to take actions against cancer through the disease pathway including on 1) prevention, 2) early detection, 3) diagnosis and treatment, 4) quality of life of cancer patients and survivors, 5) integrating technologies, research and innovation in cancer prevention and care, 6) reducing cancer inequalities, and 7) putting paediatric cancer under the spotlight. Some of these objectives are also broken down into **operational objectives** in the EBCP Communication. Namely the prevention objective/pillar contains seven operational objectives: 1) improving health literacy on cancer risks and determinants, 2) achieving a tobacco-free Europe, 3) reducing harmful alcohol consumption, 4) health promotion via healthy diets and physical activity, 5) reducing environmental pollution, 6) reducing exposure to hazardous substances and radiation; and 7) preventing cancers caused by infection. The diagnosis and treatment objective/pillar has four operational objectives: 1) delivering high-quality care, 2) ensuring a high-quality health workforce, 3) ensuring access to essential medicines and innovation, and 4) building on the promises of personalised medicines for cancer prevention, diagnosis and treatment. In addition, the research and innovation objective comprises two operational objectives: 1) driving change through knowledge and research, and 2) making the most of data and digitalisation in cancer prevention and care.

To this end, the **input** of the Plan includes an overall budget of EUR 4 billion drawing on various funding programmes (EU4Health, Horizon Europe, Erasmus+, the European Institute for Innovation & Technology (EIT), Marie Skłodowska- Curie, the

[20] IQVIA and EFPIA (2023). EFPIA Patients W.A.I.T. Indicator 2022 Survey. Available at: Link

[21] Communication from the Commission to the European Parliament and the Council Europe's Beating Cancer Plan COM(2021) 44 final. Available at: Link

Digital Europe programme). The Recovery and Resilience Facility (RRF) and the EU cohesion policy funds also include investments aiming specifically at improving diagnosis, treatment and monitoring in cancer[22]. The EBCP actions are implemented through various instruments (legislative, non-legislative measures and funding tools), as well as international cooperation with the WHO and OECD among others. The governance of the Plan includes the Implementation Group, responsible for the implementation, monitoring and alignment of the action across the Commission and other EU institutions, working closely with the national authorities that are part of the Sub-group on Cancer of the Expert Group in Public Health and the Cancer Stakeholder Contact Group.

The **activities and output** of the Plan comprise 42 actions including 10 flagship initiatives across the seven specific objectives of the Plan, divided across the four pillars of the disease pathway, i.e. prevention, early detection, diagnosis and treatment and quality of life of cancer patients and survivors, and three cross-cutting themes affecting the whole disease pathway, i.e. new technologies, research and innovation; reducing cancer inequalities across the EU, and putting paediatric cancers under the spotlight.

The various actions of the EBCP are expected to lead to the following **outcomes** and **impacts**:

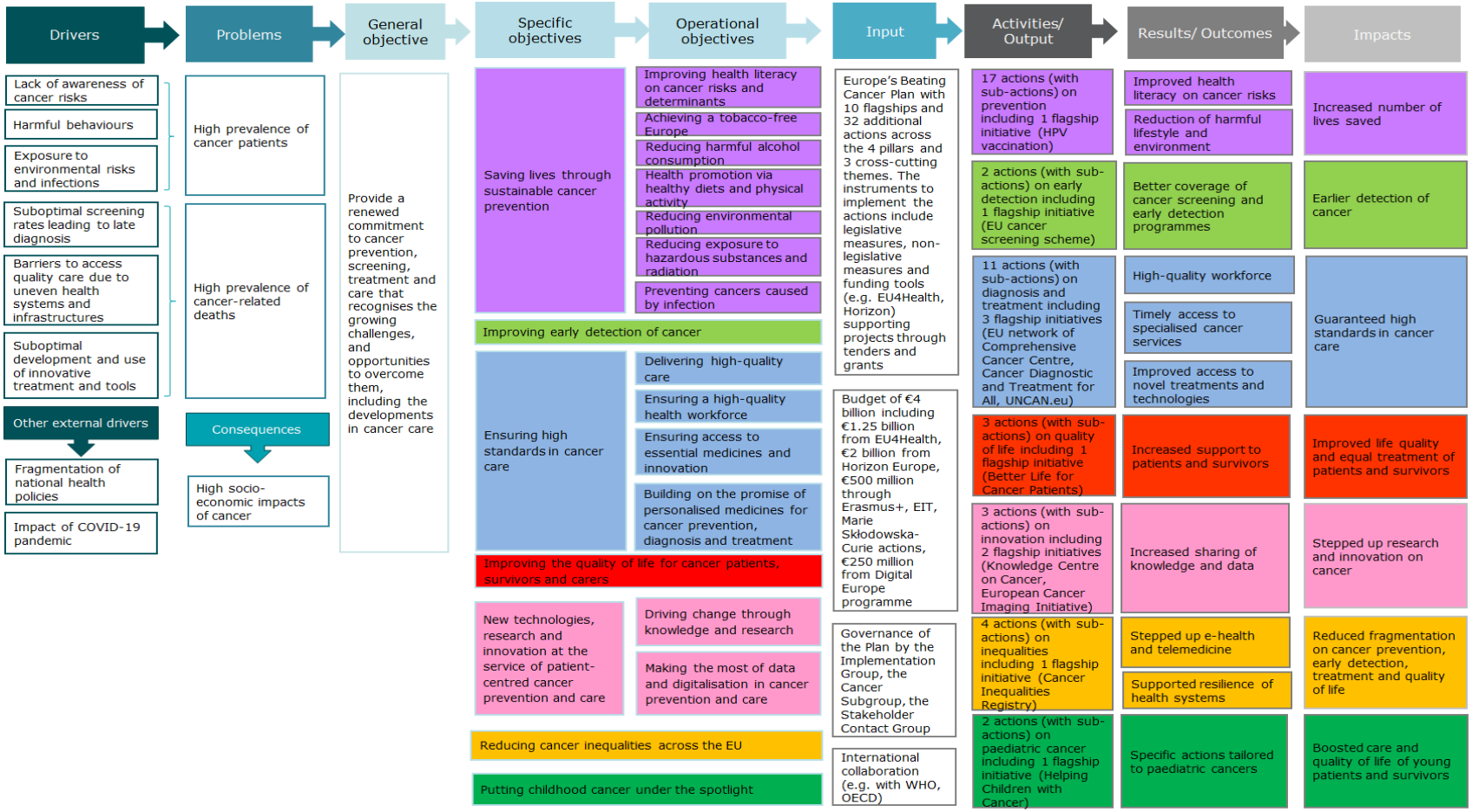
- On prevention, the main expected outcomes are improved health literacy on cancer risks and a reduction of harmful lifestyle and environmental factors, such as a reduced prevalence of smoking and harmful alcohol consumption, a reduced presence of carcinogenic contaminants in food, access to healthy food and increase in physical activities, reduced exposure to occupational carcinogens and environmental contaminants in surface, ground and drinking water, soil and air, noise pollution and reduced exposure to infections. The long-term expected impact is to increase the number of lives saved.
- Concerning early detection actions, the expected outcome is better coverage of cancer screening and early detection programmes, leading to earlier detection of cancer.
- The expected outcomes of the actions on diagnosis and treatment are a high-quality workforce, timely access to specialised cancer services, and improved access to novel treatments and technologies, leading to guaranteed high standards in cancer care.
- On quality of life, the expected outcome of the actions is an increased support to patients and survivors, resulting in improved quality of life and equal treatment of patients and survivors.

[22] Examples from RRF include: purchasing equipment for the prevention, diagnosis and treatment of cancer in Croatia (EUR 85 million); and the building and establishment of the Czech Oncological Institute (EUR 220 million). The EU cohesion policy funds will support e.g. investments in Italy in promotion of cancer screening programmes, awareness-raising campaigns for participation in cancer screening and prevention in general, monitoring and prevention pathways in cooperation with the cancer screening system. Some regions in Portugal plan to invest the EU cohesion policy funds in health infrastructure and medical equipment to improve their capacity for cancer diagnosis and treatment.

- The actions on technologies, research and innovation are expected to result in increased sharing of knowledge and data, leading to stepped-up research and innovation on cancer.
- The expected outcomes of the actions on reducing inequalities include stepped-up e-health and telemedicine, and supported resilience of health systems, resulting in reduced fragmentation on the cancer pathway.
- The measures on paediatric cancer are expected to result in specific actions tailored to paediatric cancers, leading to boosted care and quality of life of young patients and survivors.

The figure in the next page depicts the intervention logic graphically.

Figure 1. Intervention logic of the EBCP



Source: Authors' elaboration.
Note: Colour by specific objective= prevention in purple, early detection in light green, diagnosis and treatment in blue, quality of life in red, research and innovation in pink, inequalities in yellow, paediatric cancer in dark green

2.2. Baseline situation

In the previous section, we presented the intervention logic of the EBCP, with its objectives, activities and expected outcomes and impacts. In what follows, we will provide an overview of the baseline situation across all EU Member States, Iceland and Norway, across the four pillars of the EBCP. The baseline situation will be based on available data that predates the implementation of the EBCP (i.e. pre-2021). This will allow for future quantification and insights into the impact of the various policies and measures implemented in each EU Member State, Iceland and Norway, and their alignment with the targets set out in the EBCP.

2.2.1. Prevention

Approximately 40% of cancer cases in the EU are preventable, making prevention more effective than treatment. The EBCP aims to raise awareness of and address key risk factors such as cancers caused by smoking, harmful alcohol consumption, obesity and lack of physical activity, exposure to pollution, carcinogenic substances and radiation, as well as cancer triggered by infectious agents.

Health literacy

The EBCP aims to launch actions to give people the information and tools they need to make healthier choices. This involves promoting cooperation between health and social services and the community to educate the public on healthy behaviour and patients on how to live well after cancer treatment. The European Code against Cancer (ECAC) will be updated to take into account the latest scientific developments and will add new evidence-based recommendations to improve health literacy. The EBCP will aim to make at least 80% of the population aware of the ECAC by 2025. According to an Evaluation Study of the ECAC published in 2021, although approximately 70% of the EU population is aware of cancer prevention guidance, only a low percentage of the EU population had previously heard about the ECAC (2% in UK to 21% in Hungary and Poland)[23].

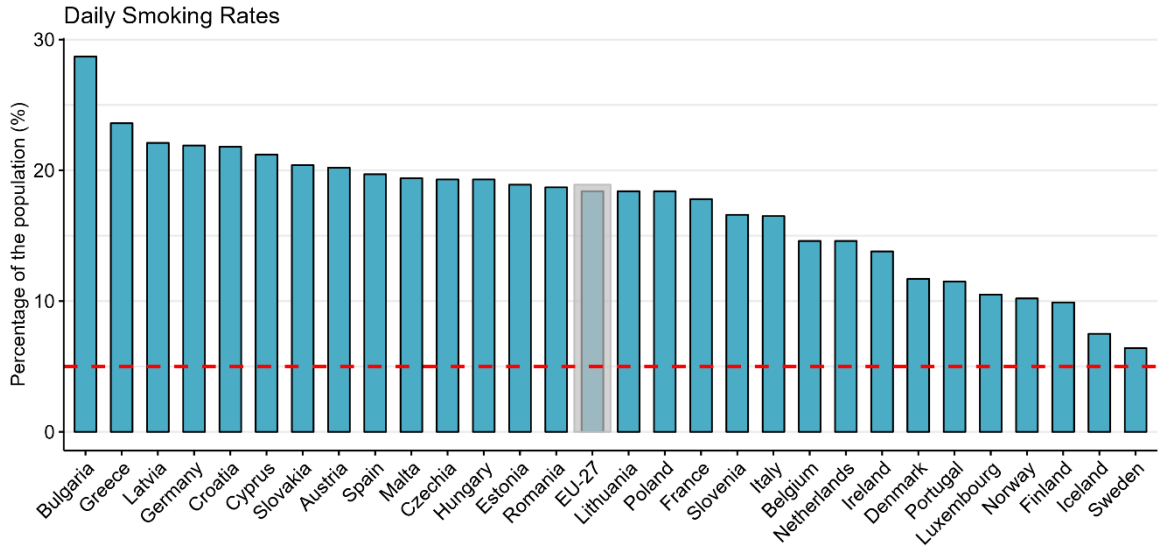
Tobacco

The EBCP aims to put forward actions to help create a 'Tobacco-Free Generation', where less than 5% of the population uses tobacco by 2040, with an interim goal of a smoking prevalence of 20% by 2025. According to data from the European Health Interview Survey from 2019, **18.4% of the EU population smoked on a daily**

[23] Ritchie D, Mallafré-Larrosa M, Ferro G, Schüz J, Espina C. (2021). Evaluation of the impact of the European Code against Cancer on awareness and attitudes towards cancer prevention at the population and health promoters' levels. Available at: Link

basis[24]. As of 2019, the countries with daily smoking rates above the interim target of 20% set out in the EBCP are Bulgaria, Greece, Latvia, Germany, Croatia, Cyprus, Slovakia, and Austria. The introduction of stricter tobacco control policies which are in line with the various Tobacco Control Directives and the 2009 Council Recommendation on Smoke-Free Environments within Member States will help decrease daily smoking rates to reach the targets set out by the EBCP. Most Scandinavian countries, such as Sweden, Iceland, Finland, and Norway, which have a long-standing history of tobacco control policies, have the lowest daily smoking rates of the EU at below 10% of the population, and close to achieving the 5% target of the EBCP by 2040.

Figure 2. Daily smoking rates in 2019 in EU Member States, Iceland, Norway



Source: Eurostat (European Health Interview Survey - hlth_ehis_sk3e). The EU average is highlighted in grey, and the red dotted line indicates the target set out by the EBCP where less than 5% of the population uses tobacco by 2040.

Alcohol

The European Commission, as stated in the EBCP, will increase support for Member States and stakeholders to implement best practices and capacity building activities to reduce harmful alcohol consumption in line with the targets of the UN Sustainable Development Goals. This includes a 10% reduction in the harmful use of alcohol by 2025. However, recent evidence shows that there is no safe level of alcohol consumption for cancer and all types of alcoholic beverages, including beer, wine and spirits, are linked to cancer, regardless of their quality and price[25,26]. The risk of developing cancer increases substantially the more alcohol is consumed.

[24] Eurostat (2022). Daily smokers of cigarettes. Available at: Link

[25] World Health Organisation (2020). Alcohol and cancer in the WHO European Region: an appeal for better prevention. Available at: Link

[26] Anderson B. et al (2023). Health and cancer risks associated with low levels of alcohol consumption. Available at: Link

According to data from the European Health Interview Survey from 2019, **8.4% of the EU population consumed alcohol on a daily basis**[27]. The average quantity of alcohol consumed across the EU in 2019 was 11.3 litres of pure alcohol per person per year[28]. In 2018, of all cancer cases causally linked to alcohol, 11% were due to drinking below approximately 9.2 litres of pure alcohol per person per year – i.e. consumption of no more than one big bottle of beer (500 ml), two glasses of wine (200 ml) or 60 ml of spirits per day[29]. As of 2019, countries with the highest consumption of alcohol per person per year were Czechia, Lithuania, Germany, Ireland, and Luxembourg. The European Commission, in line with EBCP, is aiming to provide support to Member States to implement evidence-based brief interventions on alcohol in primary healthcare, the workplace and social services. These initiatives, along with strict alcohol control policies at a national level will reduce harmful alcohol consumption and reach the target set out by the EBCP. The countries with the lowest consumption of alcohol were Scandinavian countries, such as Iceland, Sweden and Norway, which have strict alcohol control policies, as well as Malta and Italy.

Healthy lifestyle habits

Unhealthy diets and physical inactivity are major risk factors for cancer. The EBCP sets out to reduce the presence of carcinogenic contaminants in food, make healthy foods more readily available and increase their consumption through tax incentives, increase health literacy on the importance of healthy diet and its link to cancer, and promote sport and physical activity across all EU Member States. Prevalence of overweight and obesity has increased consistently – across the WHO European Region almost 60% of adults are now affected – and no Member State is on track to reach the agreed target of halting the rise in obesity by 2025. Overweight and obesity in children are of particular concern because unhealthy bodyweight in early life not only affects a child's immediate physical and mental health, educational attainment and quality of life but may also increase the risk of obesity and Non-Communicable Diseases such as cancer later in life[30]. According to the fifth round of the WHO European Childhood Obesity Surveillance Initiative (2018-2020), overall prevalence of obesity among 7–9-year-old children in the WHO European Region was 12% and more common in boys (14%) than girls (10%). The highest prevalence of both overweight and obesity for both genders amongst 7-9-year-olds was observed in Cyprus (prevalence of overweight at 43.3%; prevalence of obesity at 19.5%), Greece (prevalence of overweight at 44.7%; prevalence of obesity at 18.6%) and Italy (prevalence of overweight at 37.4%; prevalence of obesity at

[27] Eurostat (2022). European Health Interview Survey (hlth_ehis_al1e) - Frequency of alcohol consumption. Available at: Link

[28] European Cancer Inequalities Registry. Quantity of alcohol consumption (2019) by country. Available at: Link

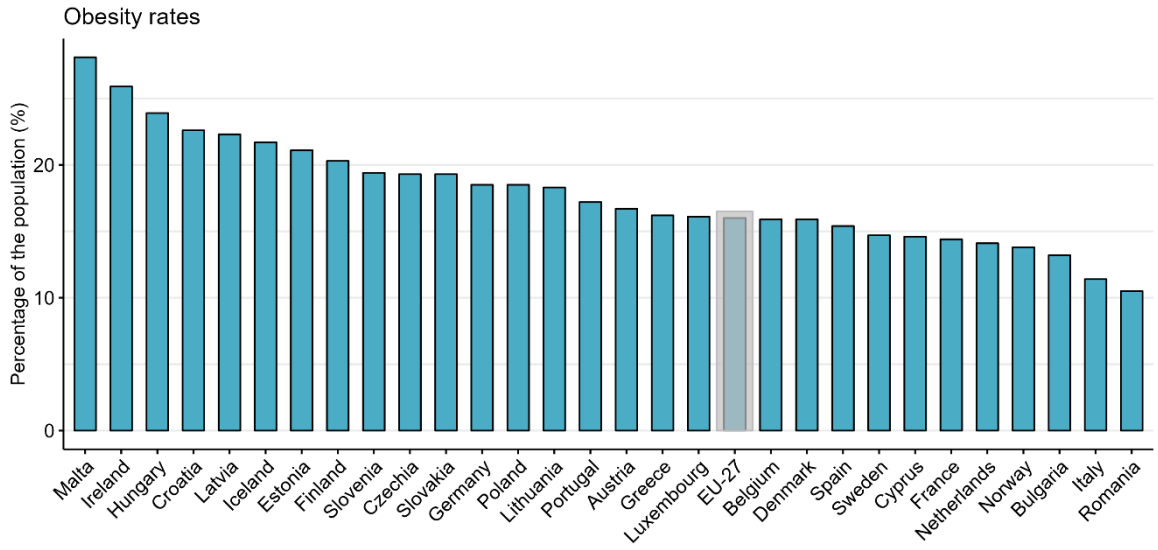
[29] World Health Organisation (2020). Alcohol and cancer in the WHO European Region: an appeal for better prevention. Available at: Link

[30] Breda J, McColl K, Buoncristiano M, Williams J, Abdrakhmanova Z, Abdurrahmonova Z et al. (2021). Methodology and implementation of the WHO childhood obesity surveillance initiative (COSI). Available at: Link

15.8%), while the lowest prevalence was observed in Denmark (prevalence of overweight at 18.7%; prevalence of obesity at 5.7%) and Ireland (prevalence of overweight at 24.1%; prevalence of obesity at 7.6%)[31].

According to data from the European Health Interview Survey from 2019, **16% of the adult EU population was classified as obese[32], with only 32.7% of the adult EU population engaging in at least 150 minutes of physical activity per week**[33]. Across the EU, Iceland and Norway, the countries with the highest adult obesity rates in 2019 were Malta, Ireland, and Hungary, while Romania, Italy, and Bulgaria reported the lowest adult obesity rates across the EU[34]. Malta, Romania, and Bulgaria reported the lowest rates of engagement in physical activity across all EU Member States[35]. Obesity rates are increasing across the majority of EU Member States, and more needs to be done by all Member States to reverse the current trend in obesity rates and prevent future cancers from arising.

Figure 3. Adult obesity rates in 2019 in EU Member States, Iceland and Norway



Source: Eurostat (European Health Interview Survey - hlth_ehis_bm1e).

[31] World Health Organisation (2022). Report on the fifth round of data collection, 2018–2020: WHO European Childhood Obesity Surveillance Initiative (COSI). Available at: Link

[32] Eurostat (2019). Body mass index. Available at: Link

[33] Eurostat (2019). Time spent on health-enhancing (non-work-related) aerobic physical activity. Available at: Link

[34] Eurostat (2019). Body mass index. Available at: Link

[35] Eurostat (2019). Time spent on health-enhancing (non-work-related) aerobic physical activity. Available at: Link

Environmental pollution

The EBCP aims to interact closely with the Green Deal and its Zero Pollution Action Plan to set up actions on contaminants (chemicals with hazardous properties that can be harmful to the environment and human health, causing cancers, and affecting the immune, respiratory, endocrine, reproductive and cardiovascular systems) in surface, ground and drinking water, soil and air. The EEA highlights that air pollution may be linked to 0.5-1% of all cancer cases in Europe and to over 7% of lung cancers. In terms of cancer deaths, around 2% of all cancer deaths can be attributed to air pollution in Europe (and 9% to 17% of lung cancer deaths)[36]. **As of 2019, the average exposure to air pollution in the form of particulate matter (< 2.5µm) across the EU was 12.6 µg/m^3** [37]. Bulgaria and Poland had by far the highest exposure to air pollution (particulate matter < 2.5µm), while Norway, Iceland, Sweden, Finland and Estonia had the lowest exposure to air pollution, below 7µg/m^3. Scandinavian countries and their various laws, policies and measures to reduce the exposure to environmental pollution could be seen as good examples to follow across the EU[38].

Hazardous substances and radiation

It is important to reduce the exposure of carcinogens in specific settings like in workplaces, where 52% of annual occupational deaths in the EU can be attributed to work-related cancers[39]. A number of directives, strategies, and measures have been introduced across the EU and described in the EBCP, to reduce exposure to hazardous substances and radiation which will contribute significantly to cancer prevention[40]. In 2019[41], **8.9 deaths per 100,000 population were attributed to occupational carcinogens across the EU-27**. The Netherlands, Belgium, France and Denmark had the highest number of such deaths (above 10 per 100,000 population), while countries like Latvia, Bulgaria, and Lithuania had the lowest

[36] EEA (2022). Air pollution. Available at: Link

[37] European Cancer Inequalities Registry. Estimated cancer deaths attributable to ambient particulate matter pollution (2019) by country. Available at: Link

[38] Nordic Council of Ministers (2023). Nordic Environmental Permitting Processes. Available at: Link

[39] European Commission (2021). Europe's Beating Cancer Plan. Available at: Link

[40] European Commission (2020). Directive of the European Parliament and of the council amending Directive 2004/37/EC on the protection of workers from risks related to exposure to carcinogens or mutagens at work. Available at: Link; European Commission (2021). EU strategic framework on health and safety at work 2021-2027: Occupational safety and health in a changing world of work. Available at: Link; Official Journal of the European Union (2014). Council Directive 2013/59/EURATOM of 5 December 2013 laying down basic safety standards for protection against the dangers arising from exposure to ionising radiation, and repealing Directives 89/618/Euratom, 90/641/Euratom, 96/29/Euratom, 97/43/Euratom and 2003/122/Euratom. Available at: Link; European Commission (2020). Chemicals Strategy for Sustainability: Towards a Toxic-Free Environment. Available at: Link

[41] European Cancer Inequalities Registry. Estimated cancer deaths attributable to ambient particulate matter pollution (2019) by country. Available at: Link

number of deaths attributed to occupational carcinogens. A strong commitment is required from these worse performing countries to reduce occupational exposure to chemicals and prevent cancer related deaths in the future.

Infections

Many cancers can be prevented, and many lives can be saved by vaccination. The two most common vaccine preventable infections linked to the development of cancer are infections with Hepatitis B and Human papillomaviruses (HPV). The European Commission announces in the EBCP that it will help ensure access to vaccination against these viruses. In line with this, it presented, in January 2024, a proposal for a Council Recommendation on vaccine-preventable cancers[42]. This initiative will, when adopted, help Member States boost the uptake of HPV and HBV vaccination and improve the monitoring of coverage rates to help Member States boost the uptake of HPV and HBV vaccination. In the EBCP, the Commission also commits to help ensure access to treatments to prevent liver and gastric cancers associated with the Hepatitis C virus and *Helicobacter pylori* infections. According to data from the European Centre for Disease Prevention and Control (ECDC), Latvia, Sweden, and Iceland had the highest age-standardised rate of Hepatitis C infections in 2021, with Italy, Bulgaria, and Greece having the lowest rates[43]. Although there has been an overall decrease in *Helicobacter pylori* infection prevalence across Europe, Portugal has the highest gastric cancer incidence in the EU. This can in part be explained by the increased prevalence of *Helicobacter pylori* infections (66.2%) among adolescents aged 13 to 17 in Portugal[44]. **In 2019 the percentage of girls (aged 15 years old) who received the recommended doses of HPV vaccine was 51.4% in the EU[45].** Coverage among females was highest in Norway, Portugal, Malta and Iceland, with more than 80% of the eligible population vaccinated against HPV in 2019. Countries with the lowest HPV vaccination coverage amongst females were Bulgaria, Luxembourg and France, while no data was reported for countries such as Greece, Poland, Romania, Croatia, and Czechia for 2019. As of 2019, Norway had complete HPV vaccination coverage amongst males in 88% of the eligible population. Initiatives such as the expansion of vaccination eligibility criteria, and the introduction of HPV vaccination for boys, should increase vaccination rates across all EU Member States in the future.

[42] European Commission (2024). Proposal for a Council Recommendation on vaccine-preventable cancers. Available at: Link

[43] ECDC (2021). Surveillance Atlas for Infectious Diseases. Available at: Link

[44] Reka Borka Balas et al, (2022). Worldwide Prevalence and Risk Factors of *Helicobacter pylori infection* in Children. Available at: Link

[45] European Cancer Inequalities Registry. Girls aged 15 years old that received the recommended doses of HPV vaccine (2021) by country. Available at: Link

2.2.2. Early detection

Early detection through screening offers the best chance of beating cancer and saving lives. Across all EU Member States, plus Iceland and Norway, the presence of screening programmes for breast, cervical and colorectal cancers and participation rates within these programmes varies dramatically. In 2019, **the EU averages of the eligible population who reported having never had a screening test for breast, cervical, or colorectal cancer were 11.4%[46], 13.7%[47], and 48.7%[48] respectively**. Of all EU countries, including Iceland and Norway, Romania had the lowest cancer screening participation rates with 71.6%, 47.4% and 94% of the eligible population reporting having never participated in breast, cervical, or colorectal cancer screening respectively. While Finland, Sweden, Portugal, and Luxembourg had the highest screening rates for breast cancer with less than 4% of the eligible population reporting having never had a breast examination, Czechia and Latvia had the highest screening rates for cervical cancer with less than 4% of the eligible population reporting having never had a cervical smear test, and Denmark, Austria and Germany had the highest screening rates for colorectal cancer with less than 25% of the eligible population reporting to having never had a colorectal cancer screening test. There is a strong need to incorporate colorectal cancer screening programmes across most European countries, as **screening rates for colorectal cancer are significantly lower than those observed for breast and cervical cancers**[49]. In 2022, the Council proposed a new recommendation on cancer screening to bring down the mortality of cancer and cut the incidence of invasive cancers. Whereas the previous cancer screening recommendation from 2003 was limited to breast, cervical and colorectal cancer, member states agreed to broaden the focus to prostate, lung and gastric cancers, while also adapting the eligible age groups for certain cancers[50]. The EBCP will put forward a new EU-supported Cancer Screening Scheme to help Member States ensure that 90% of the EU population who qualify for breast, cervical, and colorectal cancer screenings are offered screening by 2025.

[46] Eurostat. (2022). Self-reported last breast examination by X-ray among women by age and educational attainment level (European Health Interview Survey -hlth_ehis_pa7e). Available at: Link

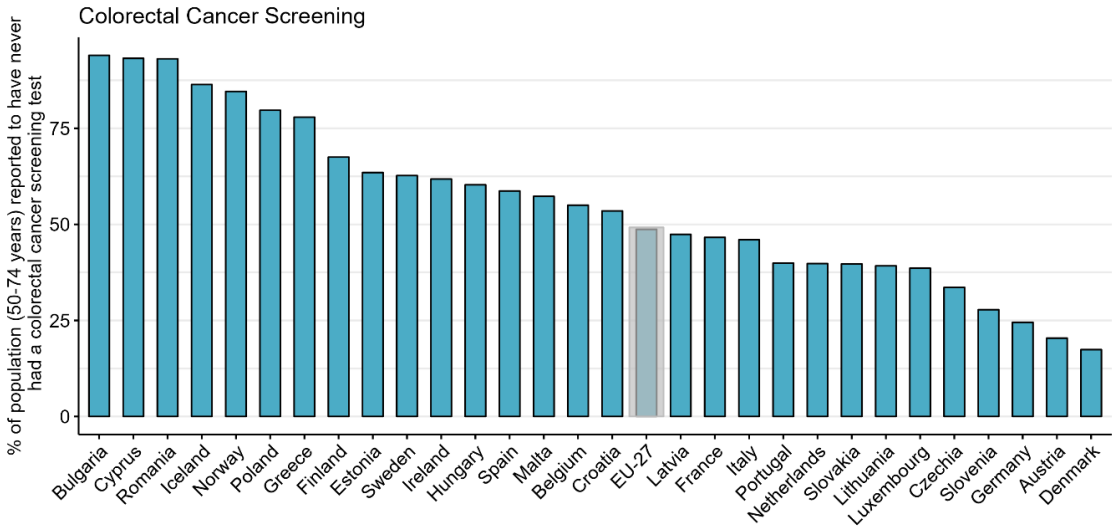
[47] Eurostat (2019). Self-reported last cervical smear test among women by age and degree of urbanisation (European Health Interview Survey - hlth_ehis_pa8u). Available at: Link

[48] Eurostat (2019). Self-reported last colorectal cancer screening test by sex, age and educational attainment level (European Health Interview Survey - hlth_ehis_pa5e). Available at: Link

[49] Eurostat (2022). Self-reported last breast examination by X-ray among women by age and educational attainment level. Available at: Link; Eurostat (2022). Self-reported last cervical smear test among women by age and educational attainment level. Available at: Link; Eurostat (2022). Self-reported last colorectal cancer screening test by sex, age and educational attainment level. Available at: Link

[50] Council of the EU (2022). Council updates its recommendation to screen for cancer. Available at: Link

Figure 4. Percentage of the population aged 50 to 74 years reporting to have never had a colorectal cancer screening test across EU Member States, Iceland, Norway



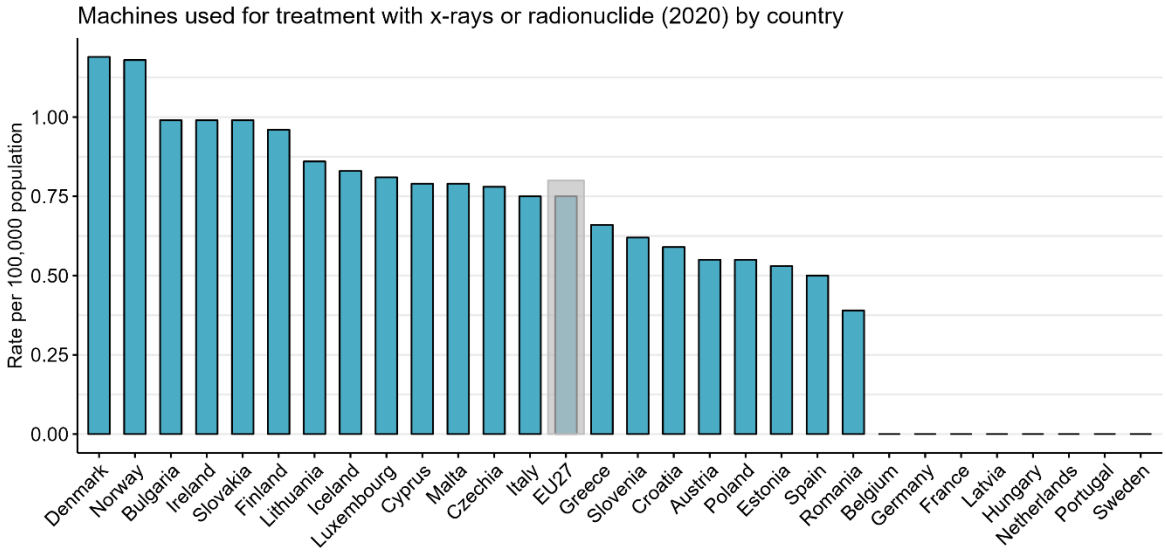
Source: Eurostat (2019). Self-reported last colorectal cancer screening test by sex, age and educational attainment level (European Health Interview Survey - hlth_ehis_pa5e). The EU average is highlighted in grey.

2.2.3. Diagnosis and treatment

The EBCP will seek to ensure that people in the EU have the right to access affordable, preventive, and curative healthcare of good quality. High-quality cancer care depends on a number of factors such as a high-quality workforce working in multidisciplinary teams, on timely access to specialised cancer services providing optimal and quality assured treatment, as well as the availability of essential medicines and innovation. In 2020, the number of machines used for cancer treatment with x-rays or radionuclide (includes linear accelerators, Cobalt-60 units, Caesium-137 therapy units, low to orthovoltage x-ray units, high dose and low dose rate brachytherapy units and conventional brachytherapy units) was 0.78 per 100,000 population across the EU[51]. Denmark, Norway and Slovakia had the highest number of machines used for treatment with x-rays or radionuclide in 2020 (over 1.0 per 100,000 population), while Romania had the lowest number with less than 0.5 machines per 100,000 population. To ensure cancer treatments are available for all cancer patients and need, EU Member States with insufficient radiotherapy systems should invest in more systems to align with the flagship initiative of the EBCP "Cancer Diagnosis and Treatment for All", an initiative to improve access to innovative cancer diagnosis and treatments. Furthermore, the SAMIRA action plan aims at enhancing quality and safety of medical applications of ionising radiation, and ensuring availability of radiopharmaceuticals vital for cancer diagnostics and treatment.

[51] European Cancer Inequalities Registry. Machines used for treatment with x-rays or radionuclide (2020) by country. Available at: Link

Figure 5. Number of radiotherapy equipment used for cancer treatment with x-rays or radionuclide in 2020 per 100,000 population across EU Member States, Iceland and Norway



Source: European Cancer Inequalities Registry

In terms of the availability of innovative medicines, a report published by EFPIA and IQVIA[52] indicated that Germany had the highest number of oncology medicines that received approval from the European Medicines Agency (EMA) between 2018 and 2021 available on the market (45 of 46 EMA approved oncology medicines), and was also the quickest to incorporate these medicines into clinical practice taking 102 days (the EU average was 532 days). On the contrary, Malta only had 1 oncology medicine recently approved by the EMA on the market, while Romania took 991 days to incorporate recently approved oncology medicines into clinical practice. The above-mentioned data, provide some indicators on which one can assess the impact of various policies and measures taken by Member States to improve access to medicines and the quality of care provided to cancer patients.

2.2.4. Quality of life

Thanks to advances in early detection, effective therapies and supportive care, survival rates have dramatically increased. The most common issues that survivors face stem from insufficient management of late and long-term effects of treatment; poor coordination and lack of communication among healthcare providers; unmet psychosocial needs, and issues related to rehabilitation, emotional distress, tumour recurrence, and metastatic disease. Disability-adjusted life years (DALYs) are often used as a measure of overall disease burden and are expressed as the number of years lost due to premature mortality and years of healthy life lost due to the disease. The calculation of DALYs for a specified disease is calculated by summing the years

[52] IQVIA and EFPIA (2023). EFPIA Patients W.A.I.T. Indicator 2022 Survey. Available at: Link

lived with a disability and the years of life lost. The most recent data[53] on cancer shows that **the average number of DALYs across the entire EU in 2019 was 3,342 years**. Countries with the highest number of DALYs, and likely the poorest quality of life of cancer patients and survivors, are Hungary, Bulgaria, and Poland with over 4,000 DALYs, while Malta, Finland, and Cyprus had the lowest number of DALYS (less than 2,650 DALYs). The European Commission launched the "Better Life for Cancer Patients Initiative", along with a Directive on work-life balance for parents and carers (launched in 2019 and in the process of being fully implemented across Member States), and other initiatives to improve the quality of life of cancer patients, their family members, and their carers. In 2023, the SmartCARE project was launched under the EU4Health Programme with the aim to develop an EU-level Cancer Survivor Smart Card to improve the quality of life and health status of cancer survivors. The mobile and web app will provide new support to under-met needs related to the medical and psycho-social aspects of cancer survivorship. EU Member States should implement these various policies and measures at a national level to reduce the number of DALYs and ensure cancer patients and survivors live long and well.

2.3. Developments relevant for fighting cancer since the adoption of the EBCP

This section presents the main technological, policy and societal developments and challenges as well as the COVID-19 impacts that emerged or evolved since the adoption of the EBCP or are anticipated in the future and are relevant for the implementation of the Plan.

2.3.1. Main technological trends and developments

In recent years the **speed of innovation** for **cancer research and new treatment methods** for cancer patients has been unprecedented[54]. The wave of scientific innovation has been generating an unprecedented level of choice and promise in cancer early detection, treatment and care[55]. This is shown by an increasing number of European marketing authorisation in oncology, the fact that nearly 40% of drugs in development are oncology therapies as well as a growing amount of research projects to boost innovation, mainly covering prevention, treatment, diagnostics, quality of life and understanding[56,57]. Moreover, the **COVID-19 pandemic** has accelerated the development of technology in the field of medicine and brought

[53] Institute for Health Metrics and Evaluation (IHME) (2021). Global Burden of Disease Study 2019. Available at: Link

[54] Vintura (2020). Every Day Counts: Improving time to patient access to innovative oncology therapies in Europe. Available at: Link

[55] Ibid.

[56] Hofmarcher et al. (2019). Comparator Report on Cancer in Europe 2019 – Disease Burden, Costs and Access to Medicines. Available at: Link

[57] Albrecht et al. (2018). Pursuing breakthrough in cancer drug development. Available at: Link

attention to new noticeable trends. By way of example, data and their conversion into evidence to inform policy and practice had played a pivotal role after that the COVID-19 pandemic has shown that governments can ensure rapid access to data when they perceive a pressing need. Thus, in the realm of European cancer care, specifically, a pivotal lesson emerged: the imperative reliance on data for evidence-driven policymaking and practice. Governments' swift access to data during the pandemic underscores the critical need for proactive data utilisation in cancer care. This approach has the potential to ensure timely interventions, informed resource allocation, and the adaptation of strategies to dynamic healthcare challenges, ultimately fostering more effective cancer care delivery across Europe[58].

In the field of **prevention**, overall, recent years have witnessed substantial progress in **cancer vaccine** expertise across Europe. Firstly, the development of the preventive human papillomavirus (HPV) vaccine and its use to protect women and girls from cervical cancer, and its application within the past five years to protect both sexes from HPV-driven cancers, such as oropharyngeal and anal cancers, has seen a successful implementation[59]. Furthermore, Europe has been at the forefront of the development of COVID-19 vaccines, deploying mRNA personalised vaccine approaches for vaccination strategies in solid tumours[60]. Recently, mRNA vaccines have become a significant type of therapeutics and have created new fields in the biopharmaceutical industry. Human trials with data both from mRNA cancer vaccines and mRNA infectious disease vaccines have provided encouraging results, inspiring the pharmaceutical and biotechnology industries to focus on this area of research, and in light of the vaccine's quick development, mRNA has become a potential candidate in the immunisation landscape[61]. Also, a pivotal role in the combat of hepatitis B virus (HBV) infection – a leading cause of liver cancer - has been held by the HBV vaccine[62]. Specifically, HBV vaccine not only prevents the spread of the virus, but generally reduces the global burden of hepatitis B-associated disease[63]. Similarly, significant advances in anti-retroviral treatment for hepatitis C virus have also been registered.

Early detection techniques have improved with new European-driven **developments in ultra-thin rapid next-generation computed tomography (CT) scanning[64] and AI**, enhanced by **robotic read-out systems** that provide

[58] Lawler et al. (2023). European Groundshot – Addressing Europe's cancer research challenges: A Lancet Oncology Commission. Available at: Link

[59] Lawler et al. (2023). European Groundshot – Addressing Europe's cancer research challenges: A Lancet Oncology Commission. Available at: Link

[60] Sahin et al. (2018). Personalized vaccines for cancer immunotherapy. Available at: Link

[61] Chakraborty et al. (2021). From COVID-19 to Cancer mRNA Vaccines: Moving From Bench to Clinic in the Vaccine Landscape. Available at: Link

[62] Stroffolini et al. (2022). Effectiveness of Hepatitis B Vaccination Campaign in Italy: Towards the Control of HBV Infection for the First Time in a European Country. Available at: Link

[63] Sharrock et al. (2022). Monitoring progress towards elimination of hepatitis B and C in the EU/EEA. Available at: Link

[64] A computer-tomography scan is a medical imaging technique used to obtain detailed internal images of the body.

increasing precision and speed in early cancer detection[65]. Also advances in **biomarker testing**, with next generation sequencing allow early detection of genomic alterations which drive tumour development.

Similarly, there has been a considerable push in Europe to embrace **new medical technologies and innovative tools** to enhance **cancer diagnosis and treatment**, which also brought significant improvements in **quality of cancer care**[66].

Precision medicine, a healthcare approach that systematically uses patient data to inform **personalised treatment decisions**, has emerged as potentially transformative – offering the promise of superior treatment outcomes for all cancer patients[67]. Therapy selection in oncology has increasingly become tailored to the individual patient and disease characteristics, to improve the likelihood of patients responding to treatment[68]. Precision medicine is supported by advances in **biomarker testing** which provide critical insights into a patient's likely response to treatment[69].

Europe's radiotherapy research agenda has also been focused on **precision radiation therapy development** and has seen the improvement of new-generation Magnetic Resonance Imaging (MRI)-guided radiotherapy[70], adaptive radiotherapy, or FLASH radiotherapy systems[71] for the optimal balance between treatment toxicity and tumour control[72,73]. This search for better tolerated radiotherapy techniques has also facilitated hypo-fractionated delivery, which has become the standard-of-care in breast cancer and prostate cancer[74].

Furthermore, **tumour immunology and immunotherapy** have seen substantial progress in Europe, with early work on drugs that block the activity of Programmed

[65] Heuvelmans et al. (2021). Lung cancer prediction by deep learning to identify benign lung nodules. Available at: Link

[66] Lawler et al. (2023). European Groundshot – Addressing Europe's cancer research challenges: A Lancet Oncology Commission. Available at: Link

[67] IQN Path, ECPC & EFPIA (2021). Unlocking the potential of precision medicine in Europe. Available at: Link

[68] Vintura (2020). Every Day Counts: Improving time to patient access to innovative oncology therapies in Europe. Available at: Link

[69] Schwaederle et al. (2015). Impact of precision medicine in diverse cancers: a meta-analysis of Phase II clinical trials. Available at: Link

[70] Magnetic Resonance Imaging is a type of diagnostic test that can create detailed images of nearly every structure and organ inside the body. Magnetic Resonance Imaging uses magnets and radio waves to produce images on a computer.

[71] FLASH radiotherapy is a technique involving the delivery of ultra-high dose rate radiation to the target. It has been shown to reduce radiation-induced toxicity in healthy tissues without compromising the anti-cancer effects of treatment compared to conventional radiation therapy.

[72] Lagendijk et al. (2014). The magnetic resonance imaging-linac system. Available at: Link

[73] Bourhis et al. (2019). Clinical translation of FLASH radiotherapy: why and how?. Available at: Link

[74] Aggarwal et al. (2018). Radiation therapy research: a global analysis 2001-2015. Available at: Link

Death proteins (anti-PD1 drugs, e.g. nivolumab and pembrolizumab)[75] and the recognition of the importance of immunogenic cell death, particularly relevant for classifying chemotherapeutic drugs and enhancing combination strategies[76,77]. Also, the discovery and development of organoids as a model system to elucidate crucial drivers of cancer has allowed for the precise definition of distinct mechanisms of tumour-cell killing and has helped to determine emerging drug resistance[78]. The creation of so-called living **biobanks** for multiple tumour types has provided an excellent platform for driving cancer research and innovation[79]. Appropriate and well characterised model systems have been important drivers in the rapid development of **drug sensitivity screening models**, with predictive value in multiple tumour types, underpinning innovative precision oncology and immunotherapy research[80,81].

The benefits that better use of oncology **data** can bring to patients and to health systems are enormous, e.g. through the implementation of electronic health records (EHRs), genomic data, imaging data and digital health tools leading to better and more personalised healthcare. Integrating these technologies into cancer research has been effective in addressing many of the challenges for cancer control and cure[82]. Furthermore, digital health uses the Internet of Things, social media, and big data to allow patients, healthcare professionals and other stakeholders to interact effectively among each other in a clinical setting. Examples include electronic patient records, patient portals, apps, and wearables, which can also be used to monitor patients and generate real-world data (RWD) about patients, their disease and their treatment. Digital medicine takes this a step further, using digital health to inform diagnosis and treatment[83].

Similarly, the rapid advances in **AI**, **big data**, and **Machine Learning (ML)** technologies hold promise for personalised, equitable cancer care and improved health outcomes within the context of cancer and beyond[84]. AI has risen as a

[75] Ivashko et al. (2016). Pembrolizumab and nivolumab: PD-1 inhibitors for advanced melanoma. Available at: Link

[76] Combination strategies aim at expanding the therapeutic use of drugs for new indications and the existing patient populations or increasing the efficacy within a patient segment.

[77] Kroemer et al. (2013). Immunogenic cell death in cancer therapy. Available at: Link

[78] Van de Wetering (2015). Prospective derivation of a living organoid biobank of colorectal cancer patients. Available at: Link

[79] Vlachogiannis et al. (2018). Patient-derived organoids model treatment response of metastatic gastrointestinal cancers. Available at: Link

[80] Veninga et al. (2021). Tumor organoids: opportunities and challenges to guide precision medicine. Available at: Link

[81] Vlachogiannis et al. (2018). Patient-derived organoids model treatment response of metastatic gastrointestinal cancers. Available at: Link

[82] Ibid.

[83] Vintura (2021). Explaining the diversity of digital health solutions. Available at: Link

[84] Charalambous et al. (2023). Big Data, Machine Learning, and Artificial Intelligence to Advance Cancer Care: Opportunities and Challenges. Available at: Link

valuable means in cancer care across the cancer continuum[85], particularly within preclinical and translational cancer research. AI has also the potential to support decision-making and lead to improved diagnosis and treatment[86]. The integration of AI and ML has resulted in significant progress in digital pathology and diagnostics and enrichment of foundational and drug-discovery research. Applications of AI also included, by way of example, advanced risk assessment, molecular characterisation, and response prediction. Moreover, within the medical fields of radiology and pathology, the application of AI has become particularly popular in the analysis of imaging data toward disease classification, detection, segmentation, characterisation, and monitoring[87]. The capability of AI to analyse massive data retrieved through EHRs has enabled pattern recognition of clinically relevant parameters using individual and historical data as aggregated data[88]. The applicability of AI has in recent years extended to include more aspects of the cancer continuum, such as initial treatment, response assessment, subsequent treatment, and follow-up[89]. In this context, a number of EU-funded projects under the Innovative Medicines Initiative[90] and under Horizon Europe on the use of RWD and AI (e.g. EHDEN[91], IDERHA[92], Incisive Project[93], I3LUNG[94], COMFORT[95], AIDAVA[96], Cancer Image Europe[97] and Optima[98]) have been launched. However, AI should be considered not only in terms of its diagnostic capabilities and potential to revolutionise scientific communication, but also in terms of how it could be used to spread misinformation around cancer and health in general[99].

The table below summarises how the various technological developments affect the pillars of the EBCP.

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[85] Chambers et al. (2018). Advancing the Science of Implementation across the Cancer Continuum. Available at: Link

[86] EFPIA (2019). Unleashing the potential of data to improve cancer care. Available at: Link

[87] Bi et al. (2019). Artificial intelligence in cancer imaging: clinical challenges and applications. Available at: Link

[88] Farina et al. (2022). An overview of artificial intelligence in oncology. Available at: Link

[89] Farina et al. (2022). An overview of artificial intelligence in oncology. Available at: Link

[90] The Innovative Medicines Initiative is a European initiative to improve the competitive situation of the European Union in the field of pharmaceutical research. It is a joint initiative (public-private partnership) of the DG Research of the Commission and the European Federation of Pharmaceutical Industries and Associations.

[91] EHDEN. Available at: Link

[92] IDERHA. Available at: Link

[93] Incisive Project. Available at: Link

[94] I3LUNG. Available at: Link

[95] COMFORT. Available at: Link

[96] AIDAVA. Available at: Link

[97] Cancer Image Europe. Available at: Link

[98] Optima. Available at: Link

[99] Hopkins et al. (2023). Artificial intelligence chatbots will revolutionize how cancer patients access information: ChatGPT represents a paradigm-shift. available at: Link

Table 1. Main technological trends and developments

EBCP pillar	Operational objectives	Technological developments
Prevention	• Reduced exposure to infections	• Progress in cancer vaccine expertise: HPV vaccines, mRNA vaccines, HBV vaccines
Early detection		• Developments in ultra-thin rapid next-generation computed tomography-scanning and AI • Robotic read-out systems • Biomarker testing
Diagnosis and treatment	• Delivering high-quality care	• Progress in tumour immunology and immunotherapy
	• Building on the promises of personalised medicines	• Cancer biomarkers • Advances in precision medicine • Precision radiation therapy development: new-generation Magnetic Resonance Imaging-guided radiotherapy, adaptive radiotherapy and FLASH radiotherapy systems
	• Ensuring access to essential medicines and innovation	• Development of drug sensitivity screening models • AI-supported decision making for diagnosis and treatment • Electronic health records and digital health tools
New technologies, research and innovation	• Making the most of data and digitalisation	• Advances in AI, big data and ML • Advances in molecular, cellular and structural cancer biology, precision oncology vaccines, CAR T-cell therapies, drug-antibody conjugates, neoadjuvant therapies, etc.

Source: Authors' elaboration.

2.3.2. Recent policy developments related to cancer

A stronger **European Health Union** beyond the political boundaries of the EU27, with an emphasis on greater health resilience, stronger coordination at EU level and integrated research, a health in all policies approach, as well as a data-informed and citizen-focused agenda has become an urgent priority in recent years to address the challenges posed by cancer[100]. In December 2021, the **European Parliament Special Committee on Beating Cancer (BECA)** adopted a report, which culminated with the European Parliament resolution of 16 February 2022 on "Strengthening Europe in the fight against cancer – towards a comprehensive and coordinated strategy"[101]. The report's main recommendations included, among other things, taking stronger EU action to address the key risk factors of cancer (e.g. tobacco consumption), extending screening schemes and launching an EU platform for national screening centres, facilitating cancer patients' access to cross-border health care and clinical trials, and developing European multi-centre clinical trials. The report also recommends extending the use of joint procurement procedures to manage cancer medicine shortages, and guaranteeing cancer survivors the 'right to be forgotten'. Calling for transparency throughout the pharmaceutical system (e.g. fair pricing and affordability) and equal access to innovative cancer treatments, the

[100] Lawler et al. (2023). European Groundshot – Addressing Europe's cancer research challenges: A Lancet Oncology Commission. Available at: Link

[101] European Parliament (2022). Strengthening Europe in the fight against cancer. Available at: Link

report also notes that a holistic approach and multidisciplinary cancer research are pivotal to securing improvements in cancer prevention, diagnosis, treatment and follow-up care for survivors. Finally, the report recommends increased funding for research into the causes of cancer, action to boost the efficiency of preventive measures, more research into paediatric and rare cancers, and additional funding for the European Reference Networks, and their integration into national health systems, while also establishing the Knowledge Centre on Cancer[102].

Moreover, the establishment of a new cross-party European Parliament Challenge Cancer Intergroup[103,104], with a secretariat provided by the European Cancer Patient Coalition - Europe's largest umbrella advocacy organisation for patients with cancer – has provided in this sense a complementary voice to the already existing Members of the European Parliament Against Cancer. These two cross-party European Parliamentary groups have successfully emphasised so far the commitment of Members of the European Parliament to cancer issues[105].

In the area of prevention, with the **European Green Deal**[106] adopted in 2019, the European Commission aims to protect the health of EU citizens from environmental-related risks and impacts. One of its relevant actions in the area of healthy lifestyle is the **Farm to Fork Strategy**[107], launched in 2020, which aims to make food systems fair, healthy and environmentally friendly. One of the objectives of the Farm to Fork Strategy is to promote healthy diets to reverse the rise in obesity and reduce the prevalence of diseases attributable to unhealthy diets such as cancer. To enable consumers to make informed choices, the Commission announced a proposal for harmonised mandatory front-of-pack nutrition labelling by end of 2022[108]. An impact assessment and a public consultation on the topics were launched in 2021, and the Joint Research Centre (JRC) published several reports in 2022, including reports synthetising current scientific evidence regarding on front-pack nutrition labelling, and digital means to convey food information as well as a market analysis on the labelling of alcoholic beverages[109]. In 2021, the Commission launched the **review**

[102] European Parliament (2022). Strengthening Europe in the fight against cancer. Available at: Link

[103] European Parliament intergroups are informal associations of Members of the European Parliament for specific issues across different political groups and contact with civil society, but are not formal bodies.

[104] European Cancer Patient Coalition (undated). Intergroup. Available at: Link

[105] Lawler et al. (2023). European Groundshot – Addressing Europe's cancer research challenges: A Lancet Oncology Commission. Available at: Link

[106] Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions, The European Green Deal. COM(2019) 640 final. Available at: Link

[107] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, A Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system. COM/2020/381 final. Available at: Link

[108] This proposal is also one of the actions planned in the EBCP.

[109] European Commission. Proposal for a revision of the Regulation on Food Information to Consumers (FIC). Available at: Link

of **the EU school scheme** legal framework[110], which applies in its current form since 2017 and supports the distribution of fruit, vegetables, milk and certain milk products to school children, in order to enhance the scheme contribution to healthy and sustainable food consumption[111]. It is expected that the proposal will be adopted by the Commission in the course of 2024. In addition, a study mapping the pricing policies and fiscal measures applied to food, non-alcoholic and alcoholic beverages was completed[112], while a study evaluating the implementation progress of the Action Plan on Childhood Obesity 2014-2020 is ongoing[113].

The Commission also set up the **HealthyLifestyle4All campaign[114]** running from 2021 to 2023, to increase awareness and access to sport, physical activity and healthy diets[115]. In addition, the Council adopted a Resolution on an **EU Work Plan for Sport 2021-2024**[116], that among other objectives aims to increase participation in sport and health-enhancing physical activity.

Other actions of the European Green Deal are relevant regarding the exposure to environmental risks. Namely, the **Zero Pollution Action Plan[117]**, launched in May 2021 sets various pollution reduction targets by 2030, such as improving air quality to reduce the number of premature deaths caused by air pollution by 55%. In December 2021, the **New EU Urban Mobility Framework**[118] was adopted, aiming to promote healthy active mobility modes such as walking and cycling, and reduce pollution with the promotion of collective/public transport and zero emission urban logistics. In 2022, the Commission published a proposal for a **revision of the Ambient Air Quality Directives**[119] aiming to align EU air quality standards more closely with WHO recommendations, regularly review of the air quality standards, improve the legal framework, and support local authorities in achieving cleaner air.

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[110] This review is also one of the actions planned in the EBCP.

[111] European Commission (2019). School scheme explained. Available at: Link

[112] ICF (2022). SC 2097106, Mapping of pricing policies and fiscal measures applied to food, non-alcoholic and alcoholic beverages. Available at: Link

[113] European Commission (undated). Contracts - EU4Health 2022 Annual Work Programme. HADEA/2022/P2/02 - Specific contract under Framework Contract SANTE/2021/OP/0002 - Study on the evaluation of the EU Action Plan on Childhood Obesity. Available at: Link

[114] This campaign is also one of the actions planned in the EBCP.

[115] European Commission. HealthyLifestyle4All initiative (2021-2023). Available at: Link

[116] Resolution of the Council and of the Representatives of the Governments of the Member States meeting within the Council on the European Union Work Plan for Sport (1 January 2021-30 June 2024) 2020/C 419/01. Available at: Link

[117] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Pathway to a Healthy Planet for All EU Action Plan: 'Towards Zero Pollution for Air, Water and Soil'. COM/2021/400 final. Available at: Link

[118] European Commission (2021). Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. The New EU Urban Mobility Framework. COM/2021/811 final. Available at: Link

[119] European Commission (2022). Proposal for a revision of the Ambient Air Quality Directives. Available at: Link

On 20 February 2024, the Council and the Parliament reached a provisional political agreement on this proposal[120]. Also in 2022, the Commission proposed new **Euro 7 standards[121] to reduce pollutant emissions from new motor vehicles** (cars, vans, lorries and buses) sold in the EU, replacing previously separated Euro 6 (for cars and vans) and Euro VI (for lorries and buses) standards, placing the same limits regardless of the type of fuel (petrol, diesel, electric). In the meantime, two other Commission proposals were published, one for the revision of the Urban Wastewater Treatment Directive[122] and one for the revision of the lists of surface and groundwater pollutants[123]. Additionally, in the area of prevention, the **directive on protection from the risks related to exposure to carcinogens, mutagens or reprotoxic substances at work[124]** was amended in 2022 bringing reprotoxic substances under the scope of the directive and adding or amending exposure limit values for certain carcinogens and mutagens.

Finally, still as far as the area of prevention is concerned, the proposal for a **Council Recommendation on vaccine-preventable cancers** was published in early 2024[125].

In the area of early detection, a new **recommendation on cancer screening** was also adopted by the Employment, Social Policy, Health and Consumer Affairs Council in December 2022 containing updated methodologies and tests for breast, cervical and colorectal cancer screening and introducing organised cancer screening programmes for lung, prostate and, in certain circumstances, gastric cancer[126].

As concerns diagnosis and treatment, the **Pharmaceutical Strategy for Europe[127]**, adopted in November 2020, aims to ensure quick and affordable access to affordable medicines, support competitiveness, innovation and sustainability of the

[120] Council of the European Union (2024). Air quality: Council and Parliament strike deal to strengthen standards in the EU. Available at: Link

[121] European Commission (2022). Commission proposes new Euro 7 standards to reduce pollutant emissions from vehicles and improve air quality. Available at: Link

[122] European Parliament (2024). Revision of the Urban Wastewater Treatment Directive. Available at: Link

[123] European Parliament (2023). Pollutants in EU waters: Update of chemical substances listed for control. Available at: Link

[124] European Parliament and Council of the European Union (2022). Directive (EU) 2022/431 of the European Parliament and of the Council of 9 March 2022 amending Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work. Available at: Link

[125] European Commission (2024). Proposal for a Council Recommendation on vaccine-preventable cancers. Available at: Link

[126] Employment, Social Policy, Health and Consumer Affairs Council (2022). A new approach to cancer screening. Available at: Link

[127] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Pharmaceutical Strategy for Europe. COM/2020/761 final. Available at: Link

EU's pharmaceutical industry, enhance crisis preparedness and response mechanisms and ensure that the EU remains an attractive place for investment and a world leader in the development of medicines. These objectives were brought forward in a proposal for a new Regulation and a new Directive presented by the Commission in April 2023, replacing the existing general pharmaceutical legislation and the legislation on medicines for children and for rare diseases. In addition, the Regulation on Health Technology Assessment[128] was adopted in 2021 and will be applicable as of January 2025 to medicinal products with new active substances for which the therapeutic indication is the treatment of cancer and medicinal products which are regulated as advanced therapy medicinal products. The Regulation will create a legal framework for joint health technology assessments (HTA) work at European level. It aims to pool expertise from across the EU, reduce duplication of work for both health technology developers and HTA bodies and provide key information for national authorities and decision makers on the relative effectiveness of new products.

The Commission services have made significant progress in the implementation of the **SAMIRA Action Plan**[129] which covers three priority areas: securing the supply of medical radioisotopes, improving quality and radiation safety in medicine, and facilitating innovation and technological development. The Commission services are studying the feasibility of a "European Radioisotope Valley" (ERVI). A first Commission Recommendation[130] in the area of quality and safety was adopted in April 2024. Strategic Research Agenda and Roadmap for medical applications of ionising radiation were delivered in March 2024[131].In the area of quality of life, the **Strategy for the rights of persons with disabilities 2021-2030[132]**, adopted in March 2021, aims to address specific inequalities for persons with disabilities in accessing cancer prevention, early detection and care, in accordance with the EBCP.

As regard research and innovation, the EBCP works in close synergy with the Horizon Europe **Mission on Cancer** (MoC), an initiative of the Commission launched in 2021 working in full synergy with EBCP[133]. The MoC, in particular, has set the ambitious goal of improving more than 3 million lives by 2030 through

[128] European Parliament and Council of the European Union (2021). Regulation (EU) 2021/2282 of the European Parliament and of the Council of 15 December 2021 on health technology assessment and amending Directive 2011/24/EU. Available at: Link

[129] European Commission (2021). SWD(2021) 14 final. Commission Staff Working Document on a Strategic Agenda for Medical Ionising Radiation Applications (SAMIRA). Available at: Link

[130] European Commission (2024). Commission Recommendation (EU) 2024/1112 of 18 April 2024 on clinical audits of medical radiological practices carried out pursuant to Council Directive 2013/59/Euratom. Available at: Link

[131] European Commission (2024). Medical Applications of Ionising Radiation for Better Patients' Lives A European Roadmap. Available at: Link

[132] European Commission (2021). Communication from the Commission to the European Parliament the Council, the European Economic and Social Committee and the Committee of the Regions. Union of Equality: Strategy for the Rights of Persons with Disabilities 2021-2030. COM/2021/101 final. Available at: Link

[133] European Commission (undated). EU mission: cancer. Available at: Link

prevention, cure and for those affected by cancer including their families, to live longer and better, and up to EUR 0.95 billion will be invested to gain a better understanding of cancer. By joining efforts across Europe with citizens, stakeholders and Member States, the MoC aims to provide a better understanding of cancer, allow for earlier diagnosis and optimisation of treatment as well as improve cancer patients' quality of life during and beyond their cancer treatment.

The MoC has encouraged the creation of **national cancer mirror groups** involving the Ministries of Research, Ministries of Health and other relevant stakeholders[134,135]. However, in spite of the launch of a project aimed at establishing National Cancer Mission Hubs (NCMHs)[136], coordination actions of the cancer research and cancer policy communities through a network of national hubs is one of the priorities of the current Mission[137].

In May 2022 the European Commission proposed a legislation for the creation of a European Health Data Space. The **European Health Data Space (EHDS)** is the first proposal for a domain-specific common European data space following the 2020 European Data Strategy. It is a key building block of the European Health Union. The EHDS is aimed to create a common, trusted, and secure space for electronic health data to improve health care and innovation. It should contribute to a single market for digital health products and services, by harmonising rules and boosting healthcare system efficiencies. It will ensure citizens' access and control over their health data and will facilitate the reuse of health data for research, innovation and policy making. On 14 March 2024, the co-legislators reached a provisional agreement on the EHDS regulation, which was then confirmed by the Council on 22 March 2024, before the adoption of the European Parliament on 24 April 2024. The EHDS Regulation is expected to be published in the EU's Official Journal in autumn 2024[138].

The table below summarises the main policy developments relevant for the EBCP.

Table 2. Main policy developments

EBCP pillar	Specific objectives	Policy developments
Prevention	• Health promotion via healthy diets and physical activity	• Farm to Fork Strategy • HealthyLifestyle4All campaign • EU Work Plan for Sport 2021-2024 • Mission on Cancer

[134] Targeted Interviews on the mapping and evaluation of the implementation of Europe's Beating Cancer Plan, July-September 2023.

[135] See for example the Belgian's 'Europe's Beating Cancer Plan' Mirror Group: Link

[136] ECHoS (undated). ECHoS. Available at: Link

[137] Baumann et al. (2023), Engaging European society at the forefront of cancer research and care. How discussions at the 5th Gago Conference on European Science policy led to the Heidelberg Manifesto. Available at: Link

[138] European Commission (2024). Commission welcomes European Parliament's adoption of the European Health Data Space and regulation on substances of human origin. Available at: Link

EBCP pillar	Specific objectives	Policy developments
	• Reducing environmental pollution	• Zero Pollution Action Plan • Zero pollution package[139] • Euro 7 standards • Directive on protection from the risks related to exposure to carcinogens, mutagens or reprotoxic substances at work • Mission on Cancer
	• Cancers caused by infections	• Council Recommendation on vaccine-preventable cancers
Early detection		• Council recommendation on cancer screening
Diagnosis and treatment	• Ensuring access to essential medicines and innovation	• Pharmaceutical Strategy for Europe • Revision of EU pharmaceutical legislation • European Health Data Space Regulation • Regulation on Health Technology Assessment • Mission on Cancer
Quality of life		• Strategy for the rights of persons with disabilities • Mission on Cancer
New technologies, research and innovation	• Driving change through knowledge and research	• Mission on Cancer • Establishment of national mirror groups • European Health Data Space: MyHealth@EU and HealthData@EU infrastructures

Source: Authors' elaboration.

2.3.3. Main societal trends and developments affecting cancer

In recent years, some societal developments have also influenced the appearance of the disease in the European population and, most importantly, the public awareness on risk factors associated with cancer. In particular, major improvements still need to be achieved in lifestyle habits (healthy diets, regular physical activity) and in the consumption of tobacco and alcohol, with relevant disparities still persisting across Member States and among different socio-economic categories. Moreover, early-onset cancer morbidity has continued to increase worldwide in recent years with notable variances in mortality and disability-adjusted life years (DALYs) between areas, countries, sex and cancer types, hence highlighting the need to further encourage a healthy lifestyle which can reduce early-onset cancer disease burden[140]. However, it should be mentioned that individual responsibility for poor health conditions is not the only cause: the individual-level approach has not successfully worked in the last 50 years and will not be sufficient to achieve the objectives of the Plan. Thus, there needs to be more discussion about the role of

[139] In 2022, EC adopted proposals for revision of the Ambient Air Quality Directives, the Urban Waste Water Directive, as well as the groundwater and surface water pollutant list and corresponding regulatory standards updated in Environmental Quality Standards, Groundwater and Water Framework Directives.

[140] Zhao et al. (2023). Global trends in incidence, death, burden and risk factors of early-onset cancer from 1990 to 2019. Available at: Link

commercial, economic and societal determinants of health in the causation of cancer and its costs to society[141].

As far as prevention is concerned, **tobacco consumption** is the largest avoidable behavioural risk factor to health in the EU and the most significant cause of premature death across EU countries, accounting for about 780,000 deaths in 2019[142]. Compared to the rest of the world, the WHO European Region has the highest rate of smoking, and the highest proportion of deaths attributable to tobacco[143]. Tobacco use is a major risk factor for severe chronic respiratory diseases, cardiovascular diseases and cancer, causing over 80% of lung cancer in Europe. Despite some progress in reducing smoking rates over the last decade, close to one in five adults (19%) still smoked daily in 2020 on average across EU countries[144]. Although traditional tobacco smoking prevalence has a downward trend among European citizens, e-cigarettes and Heated Tobacco Products (HTPs) show an opposite trend. E-cigarettes have gained increased popularity in recent years, and their consumption has doubled between 2017 and 2020 among young Europeans. In addition, HTPs market increased considerably since their appearance on the EU market in 2017. As younger generations are less likely to make use of traditional tobacco products, being aware of the high risks caused by their consumption, tobacco companies are increasingly developing innovative products that are marketed as 'safer' and 'cleaner' alternatives[145], with subliminal messages that are associated with exclusivity, fashion, and a high-tech appearance[146,147]. Tobacco companies have employed non-traditional marketing techniques and distribution strategies to attract new customers and increase sales, such as describing the new products as products with reduced-risk and as less toxic alternative, selling and marketing on multiple channels, dedicated stores, e-commerce websites, and retail establishments, using community activists and brand ambassadors, and reducing health concerns claiming that HTPs are reduced-risk products[148]. In particular, new marketing strategies have been adopted by producers of e-cigarettes to appeal potential users and to promote these new products as cessation aids.

This trend has the potential to pose considerable challenges to the EU's efforts to reduce the use of tobacco, and risks undoing the progress achieved through innovative tobacco control policies. Particularly, considering these emerging

[141] Study First Focus Group on Task 1. Future Proofing Analysis, 5th October 2023.

[142] OECD & European Commission (2022). Health at a Glance: Europe 2022. Available at: Link

[143] Bertollini, R., Ribeiro, S., Mauer-Stender, K., & Galea, G. (2016). Tobacco control in Europe: a policy review. Available at: Link

[144] OECD & European Commission (2022). Health at a Glance: Europe 2022. Available at: Link

[145] Odani et al. (2023). Heated tobacco products do not help smokers quit or prevent relapse: a longitudinal study in Japan. Available at: Link

[146] Triossi et al. (2022). Disrupting the Tobacco Industry: How Tobacco Companies Seek to Stay in Business. Available at: Link

[147] Hejlová et al. (2019). Analysis of presumed IQOS influencer marketing on Instagram in the Czech Republic in 2018–2019. Available at: Link

[148] Levy et al. (2023). Follow the money: a closer look at US tobacco industry marketing expenditures. Available at: Link

products as a valid method to quit smoking might be particularly dangerous given their uncertain effects at both individual and population level. While some studies funded by the tobacco industry attempt to prove a reduction of harmful effects compared to traditional tobacco products, independent studies have soon called it into question[149], highlighting the fact that the long-term health risk potentials are currently unknown[150]. Electronic cigarettes as actually used in the population as consumer products have not been proven to be effective for cessation at the population level and may lead to ongoing nicotine dependence"[151]. While public awareness on the risk factors related to the consumption of traditional tobacco products has seen a substantial improvement, the same cannot be said about the perceived effects of emerging products like e-cigarettes and HTPs. The increasing use of such products poses a threat to the ECBP's aim of a 'Tobacco-Free Generation', where less than 5% of the population uses tobacco by 2040. The European Commission is evaluating the current tobacco acquis. Also, an expert in the first focus group noted that Horizon Europe will be fundamental to provide the funding necessary to carry out further research that can better inform legislators and policymakers.

Likewise, according to the World Health Organisation (WHO), Europe is the region of the world with the highest levels of **alcohol consumption** and alcohol-related harm, resulting in the highest share of all deaths attributable to alcohol consumption[152]. A WHO study in 2016 revealed that nearly half of the male population in Europe engages in heavy drinking and more than 60% of adolescents (15–19) are current drinkers[153]. Every day, about 800 people die in Europe from alcohol-attributable causes. Alcohol is known to be a causal factor in over 60 diseases and conditions, including at least seven types of cancer (mouth, upper throat, larynx, oesophagus, breast, liver, and colorectal cancers). The main cause of death due to alcohol in 2016 was cancer (29%), followed by liver cirrhosis (20%), cardiovascular disease (19%) and injury (18%)[154]. The same report states that over 6% of all cancer deaths in the EU are caused by alcohol, meaning over 85,000 alcohol-attributable cancer deaths per year. Alcohol is the second-largest risk factor associated with cancer, just after smoking, representing (globally) a burden of 4.1% of new cancer cases and 4.9% of cancer deaths[155]. The average quantity of alcohol consumed across the EU in 2019 was 11.3 litres of pure alcohol per person per year, a slight reduction compared to 10.4 litres in 2010. Over the past decade, alcohol consumption has decreased in most EU countries. By contrast with many

[149] Edwards et al. (2022). Evaluating tobacco industry 'transformation': a proposed rubric and analysis. Available at: Link

[150] Feeney et al. (2022). E-Cigarettes—a review of the evidence—harm versus harm reduction. Available at: Link

[151] WHO (2023). Technical note on call to action on electronic cigarettes. Available at: Link

[152] WHO (2018). Fact sheet on alcohol consumption, alcohol-attributable harm and alcohol policy responses in European Union Member States, Norway and Switzerland. Available at: Link

[153] WHO (2019). Status report on alcohol consumption, harm and policy responses in 30 European countries 2019. Available at: Link

[154] Ibid.

[155] Tran et al. (2022). The global burden of cancer attributable to risk factors, 2010–19: a systematic analysis for the Global Burden of Disease Study 2019. Available at: Link

other risk factors, people with lower education levels do not have a higher rate of heavy episodic drinking in EU countries, except in Latvia[156]. On average, 13% of people with less than upper secondary education reported heavy episodic drinking, compared to 20% or more of people with at least upper secondary or tertiary education. These differences largely reflect greater purchasing capacity: alcohol is more affordable for people with more education and higher incomes[157]. Many European countries have implemented a range of policies to limit alcohol consumption (see also section 2.4.1 and the country factsheets in Annex 5), such as taxation, restrictions on alcohol availability and bans on alcohol advertising, but their effectiveness is hindered by poor implementation on the ground and limited resources[158]. Lastly, while cancer represents the highest share of all alcohol-attributable mortality, this fact is still not commonly known to the public in most countries, in contrast to the risks associated with tobacco consumption[159]. A report from United European Gastroenterology in 2017 reveals how up to 90% of EU consumers are unaware of the link between alcohol and cancer[160]. Even in the case of people with knowledge of the alcohol–cancer link, many believe it applies only to heavy drinking, even though, as stated by the WHO, there is no safe amount that does not affect health[161,162]. Lastly, one should also note the persistent efforts of the industry to reduce the harmful image of alcohol as a response to the potential implementation of any restrictive measures[163] In particular, the WHO warns that wording such as "responsible drinking", or "harmful use of alcohol" is ambiguous, ineffective and tends to be used by the alcohol industry in advertising campaigns[164].

Despite the well-established benefits of leading a **physically active lifestyle** and the broader public health impact of reducing chronic disease risk and premature mortality, too many adults and children are insufficiently physically active across Europe[165]. Based on WHO data, more than one in three (35.4%) adults in the 27 EU Member States were insufficiently active in 2016. Insufficient physical activity was particularly prevalent in some Southern-European countries, while less frequent in Nordic countries[166]. Moreover, data from the latest Eurobarometer survey

[156] OECD & European Commission (2022). Health at a Glance: Europe 2022. Available at: Link

[157] Ibid.

[158] OECD (2021). Preventing Harmful Alcohol Use. Available at: Link

[159] Scheideler et al. (2018). Awareness of the Link between Alcohol Consumption and Cancer across the World: A Review. Available at: Link

[160] UEG (2017). Alcohol consumption putting vast majority of Europeans at risk of digestive cancers, report reveals. Available at: Link

[161] WHO (2020). Alcohol and cancer in the who European region: An appeal for better protection. Available at: Link

[162] WHO (2023). No level of alcohol consumption is safe for our health. Available at: Link

[163] JRC (2022). Provision of ingredient, energy and full nutrition information on alcoholic beverages. Available at: Link

[164] WHO (2023). Letter of the Regional Director Dr Hans Henri P. Kluge to the President of the European Parliament Ms Roberta Metsola, 3 November 2023.

[165] OECD & WHO (2023). Step Up! Tackling the Burden of Insufficient Physical Activity in Europe. Available at: Link

[166] Ibid.

reported that, in 2022, almost half of the respondents (45%) never exercise or play sport[167].

Strictly related to the above, obesity constitutes a complex multifactorial disease defined by excessive adiposity. **Overweight and obesity** affect almost 60% of adults and nearly one in three children (29% of boys and 27% of girls) in the WHO European Region. Recent estimates suggest that overweight and obesity is the fourth most common risk factor for non-communicable diseases like cancer (NCDs) in the Region, after high blood pressure, dietary risks and tobacco, causing 1.2 million deaths per year (13% of the total of the deaths)[168]. The main causes of overweight and obesity are to be found in decreases in physical activity, increases in the consumption of foods high in fat, sugar and salt, genetic factors as well as increased urbanisation trends, which are associated with environments that are less activity-promoting and provide greater access to unhealthy foods[169]. Moreover, there have been unfavourable shifts in food consumption and physical activity patterns during the pandemic that had considerable effects on population health and overweight patterns in particular[170]. For some countries within Europe, it is predicted that obesity will overtake smoking as the main risk factor for preventable cancer in the coming decades[171]. Children are also affected, with 7.9% of children younger than 5 years and one in three school-aged children living with overweight or obesity[172]. Children and adolescents, aged 5-19 have shown rising obesity rates in almost all nations, including where the situation was far from concerning 40 years ago. Alarmingly, overweight and obese children are likely to stay obese into adulthood (over 60% of children who are overweight before puberty will be overweight in early adulthood[173], and nutrition[174] and physical activity[175] habits developed in adolescence continue into adulthood) and more likely to develop NCDs like diabetes and cardiovascular diseases at a younger age. This makes it vital that NCD prevention starts with tackling unhealthy diets and promoting physical activity during early years, childhood, adolescence, and later in life[176,177]. The Commission

[167] European Commission (2022). Eurobarometer survey on Sport and physical activity. Available at: Link

[168] WHO (2022). WHO European regional obesity report 2022. Available at: Link

[169] Ibid.

[170] Ibid.

[171] WHO (2022). WHO European regional obesity report 2022. Available at: Link

[172] Ibid.

[173] Nittari et al. (2019). Fighting obesity in children from European World Health Organization member states. Epidemiological data, medical-social aspects, and prevention programs. Available at: Link

[174] Cruz et al. (2018). Tracking of food and nutrient intake from adolescence into early adulthood. Available at: Link

[175] Telama (2009). Tracking of physical activity from childhood to adulthood: a review. Available at: Link

[176] World Cancer Research Fund International (2023). NOURISHING Policy Index. Nutrition policy status in 30 European countries. Available at: Link

[177] World Cancer Research Fund International (2023). MOVING Policy Index. Physical activity policy in 30 European countries. Available at: Link

is currently evaluating the 2014-2020 Action Plan on Childhood Obesity and will propose various strategies and initiatives to combat this growing issue. Alarmingly, although public awareness of the association of obesity and lack of physical activity with cancer has been steadily increasing in recent years, it is still low[178]. In this context, the cause of obesity can also be found in the socio-economic drivers and the financial stress leading people to consume cheap unhealthy food that increase cancer risk factors. This will be a major challenge in the next years if the financial situation does not improve for European citizens and families[179].

Cancer is also the leading cause of work-related deaths in the EU. Carcinogens contribute to an estimated 100,000 occupational cancer deaths in the workplace every year in the EU[180]. **Exposure to carcinogens** at work is common among workers. So far, the most common among the exposures considered have been ultraviolet radiation from sunlight (in regular outdoor work) and second-hand tobacco smoke in restaurants and other workplaces, whose contribution was about half of all exposures[181]. Since the early 1990s, exposure to second-hand tobacco smoke at work has been substantially reduced due to prohibitions and other restrictions, although it might be argued that it is likely that such exposure has now increased elsewhere in other outdoor and semi-outdoor spaces. Thus, some Member States and cities have started forbidding smoking in some outdoor and semi-outdoor spaces as well (e.g. parks, bus stops, areas close to hospitals and schools, etc.)[182]. Other relatively commonly occurring exposures include lead, ethylene dibromide (additive of leaded gasoline), pesticide employed in agriculture, asbestos and benzene[183]. Skin cancer, lung cancer and leukaemia are the main outcomes for each of these exposures[184]. Also, some typical work-related cancers (e.g. lung cancer and mesothelioma) have a high mortality rate[185]. Further exposure risks do not only affect workers but also patients and the general public, such as ionising radiation, indoor exposure to radon and medical radiation exposure.

The high number of workers exposed to carcinogens has led to calls for coordinated action to protect workers' health and improve working conditions[186].

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[178] Mojtahedi et all. (2022). Awareness of Obesity-Related Cancers: A Complex Issue. Available at: Link

[179] Study First Focus Group on Task 1. Future Proofing Analysis, 5th October 2023

[180] European Commission (2021). EU strategic framework on health and safety at work 2021-2027: Occupational safety and health in a changing world of work. Available at: Link

[181] Study First Focus Group on Task 1. Future Proofing Analysis, 5th October 2023

[182] Ibid.

[183] European Agency for Safety and Health at Work (2014, last update 2022). Work-related cancer. Available at: Link

[184] GBD 2016 Occupational Carcinogens Collaborators (2020). Global and regional burden of cancer in 2016 arising from occupational exposure to selected carcinogens: a systematic analysis for the Global Burden of Disease Study 2016. Available at: Link

[185] European Agency for Safety and Health at Work (2014, last update 2022). Work-related cancer. Available at: Link

[186] European Agency for Safety and Health at Work (2014, last update 2022). Work-related cancer. Available at: Link

In addition to the key role in the EBCP, the EU commitment to fight work-related cancer is also in line with the strategy of the roadmap on carcinogens 2020-2024[187], which brings together Member States and social partners to implement the limit values and other provisions adopted at EU level rapidly, limiting exposure to 26 hazardous substances and therefore improving working conditions for around 40 million workers[188]. Some countries have also established national registers on exposure to selected carcinogens, which provide data on the number of exposed workers and their exposure. These registers include, for example, the Finnish Register on Workers Exposed to Carcinogens (ASA Register), the Italian Information System for Recording Occupational Exposures to Carcinogens (SIREP), or the German ODIN Register, which collects information on workers who have been exposed to certain categories of carcinogens and are entitled to medical examinations due to their carcinogen exposure[189]. At European level, further initiatives have been taken to improve the availability of data on workers' exposure. These include, by way of example, the HazChem@Work project[190], set up to test the feasibility of creating a harmonised EU-wide registry on the exposure of groups of workers to chemical agents in the EU Member States, or the Commission's actions to better protect people from asbestos and ensure an asbestos-free future[191].

Moreover, the COVID-19 pandemic has revealed in all its strength the fragility of European health systems and the importance of a robust and resilient health workforce in order to detect cancers and ensure quality diagnosis and treatment. An alarming trend concerns the **number of oncology specialists**, and the fact that oncology seems less chosen by medical students. Oncology does not constitute anymore a highly sought-after discipline. Considering that the need for oncologist services will increase because of the growth in cancer survivors and the aging population, it might be assumed that such specialisation is likely to be one of the most affected by the overall workforce shortage occurring in the health sector[192]. Moreover, it has been argued that there is a **lack of multidisciplinary teams** including various medical specialties in cancer treatment and care. Other professions are not adequately considered throughout the managing of cancer care and treatment (e.g. cardiologists, endocrinologists, neurologists, pharmacists, physiotherapists, occupational therapists, dieticians, etc.) while multidisciplinarity should be a key aspect in care[193]. Also, as emerged in the first focus group with experts, **health budgets** might be potentially reduced in the coming years as governments will face increasing challenges and global instabilities. Health

[187] EU-OSHA (2016). Roadmap on carcinogens. Available at: Link

[188] European Commission (2021). EU strategic framework on health and safety at work 2021-2027: Occupational safety and health in a changing world of work. Available at: Link

[189] European Agency for Safety and Health at Work (2014, last update 2022). Work-related cancer. Available at: Link

[190] European Commission (2017). Final report of the HazChem@Work project. Available at: Link

[191] European Commission (2022). Commission acts to better protect people from asbestos and ensure an asbestos-free future. Available at: Link

[192] De Azambuja et al. (2014). The landscape of medical oncology in Europe by 2020. Available at: Link

[193] Study First Focus Group on Task 1. Future Proofing Analysis, 5th October 2023.

ministers have always had to fight for budgets and this may only get harder. Decades of experience tell us that when health ministers are fighting for funding in times of austerity, they almost always lose out[194].

It should also be mentioned how **climate change** might increase cancer risk through increased exposure to carcinogens after extreme weather events such as hurricanes and wildfires. Besides increasing cancer risk, climate change also has the potential to impact cancer survival: for example, extreme weather events can impede patients' access to cancer care and the ability of cancer treatment facilities to deliver care[195]. In this context, many actions that address climate change might reduce carcinogen releases or exposures. Because many anthropogenic drivers of climate change are also carcinogens[196], climate mitigation efforts have health co-benefits, and especially benefits to cancer prevention and outcomes.[197]. Therefore, providers currently involved in cancer care delivery have urgent reasons to be actively involved in the development of climate policies[198], hence making advisable that policies like the EBCP and the European Green Deal or the Farm-to-Fork Strategy become increasingly intertwined in developing and implementing common policies and actions.

Lastly, healthcare system issues, socio-economic disparities as well as challenges with the war in Ukraine and from climate change have **increased inequalities** in many aspects of cancer health systems and services, including screening, diagnosis, treatment, and supportive care, particularly between western and central-eastern European countries as well as between rural and urban areas. Not only inequalities across countries are still a persistent issue, but also socio-economic factors need to be considered: by way of example, lower-educated individuals have higher mortality rates for nearly all cancer-types relative to their more highly educated counterparts, particularly for tobacco and infection-related cancers[199]. In this sense, cancer mortality in Europe has been largely driven by levels and trends of cancer mortality rates in lower-education groups. However, the magnitude of inequalities varies greatly by country and over time, predominantly due to differences in cancer mortality among lower-educated groups, as for many cancer-types higher-educated have more similar (and lower) rates, irrespective of the country. Inequalities were generally greater in central-eastern Europe and smaller in southern Europe. Even Nordic countries, with a long-established tradition of equitable welfare and social justice policies, have witnessed increases in cancer

[194] Study First Focus Group on Task 1. Future Proofing Analysis, 5th October 2023.

[195] Ryan et al. (2015). Identifying and describing the impact of cyclone, storm and flood related disasters on treatment management, care and exacerbations of non-communicable diseases and the implications for public health. Available at: Link

[196] Loomis et al. (2013). The carcinogenity of outdoor pollution. Available at: Link

[197] International Energy Agency (2015). Energy and climate change. World energy outlook special report. Available at: Link.

[198] Watts et al. (2015). Health and Climate Change: policy responses to protect public health. Available at: Link

[199] Vaccarella, S. et al. (2023). Socioeconomic inequalities in cancer mortality between and within countries in Europe: a population-based study. Available at: Link

inequalities among women regardless of their income or education level[200]. In this context, an important tool is constituted by the European Cancer Inequalities Registry, a flagship initiative of the EBCP which shows inequalities by country, socio-economic status and disability, where data are available[201].

The table below summarises how the various societal developments affect the pillars of the EBCP.

Table 3. Main societal trends and developments

EBCP pillar	Operational objectives	Societal trends
Prevention	• Improving health literacy on cancer risks and determinants	• Overall lack of awareness of the link between alcohol and cancer
	• Achieving a tobacco-free Europe	• Decrease of traditional tobacco smoking prevalence • Increased popularity of e-cigarettes, Heated Tobacco Products and nicotine pouches
	• Reducing harmful alcohol consumption	• Slight reduction of alcohol consumption in most EU countries
	• Health promotion via healthy diets and physical activity	• Physical activity still insufficient across Europe • Increased consumption of foods high in fat, sugar and salt • Increases in the prevalence of overweight and obesity in Europe
	• Reducing exposure to hazardous substances and radiation	• Exposure to carcinogens at work still common among workers • Exposure to hazardous substances in the environment which cannot be avoided, e.g. PFAS, air pollution, etc. • Increased cancer risk through exposure to carcinogens after extreme weather events due to climate change
Diagnosis and treatment	• Delivering high-quality care • Ensuring a high-quality health workforce	• Shortage of oncologists, doctors, and nurses • Insufficient multidisciplinary teams • Disruption of patients' access to cancer care and facilities' ability to deliver care following extreme weather events due to climate change
Reducing cancer inequalities		• Increased inequalities in many aspects of cancer health systems and services (e.g. screening, diagnosis, treatment, supportive care, etc.) between western and central-eastern European countries and different socio-economic statuses

Source: Authors' elaboration.

2.3.4. Trends in cancer care emerged during the COVID-19 pandemic

COVID-19 has impacted cancer patients in multiple ways.

[200] Vaccarella, S. et al. (2023). Socioeconomic inequalities in cancer mortality between and within countries in Europe: a population-based study. Available at: Link

[201] European Commission (undated). European Cancer Inequalities Registry. Available at: Link

Firstly, the pandemic **altered population lifestyles**, leading to a surge in several unhealthy behaviours across EU countries: continuous lockdown or social isolation altered dietary consumption patterns and lifestyle routines, resulting in significant negative health consequences. For example, stress and boredom prompted increased consumption of tobacco, alcohol and foods high in fats and sugars. Also, with limited outdoor activities, physical exercise drastically decreased. Sleep patterns suffered from disrupted routines, exacerbating the overall decline in health[202].

Additionally, the COVID-19 pandemic exacerbated existing inequalities for cancer patients in several ways. As far as cancer detection is concerned, it has been estimated that, during the COVID-19 pandemic, more than 100 million cancer **screening tests were missed**, while one in two Europeans with cancer did not receive the surgery or chemotherapy that they needed in a timely fashion[203,204]. National data clearly shows how the **decrease in cancer diagnoses** when compared with the period before the COVID-19 outbreak has been notable[205]. Several arguments might explain this decrease. First, individuals with potential, non-specific symptoms of cancer might have had considerable barriers to consult their general practitioner, including moral concerns about "wasting" doctors' time for non-COVID-19-related issues. Second, most of the general practitioner consultations for non-acute symptoms were transitioned to telehealth. Third, hospitals might have postponed diagnostic evaluation or have longer turnaround times for diagnostic evaluation because many hospital-based resources were allocated to tackle COVID-19. Fourth, most national screening programmes for many types of cancer were temporarily halted in order to alleviate the demand on the healthcare system due to the pandemic[206]. Lastly, cancer patients were faced with a serious dilemma, since staying at home could have worsened the tumour progression, while visiting the hospital for cancer treatment could have increased the infection risk[207].

Moreover, COVID-19 had a disproportional **effect on mortality** in cancer patients: patients with cancer faced an increased risk of severe outcomes from COVID-19 infection[208]. Cancer and cancer-related therapies usually cause immunosuppression, which made cancer patients more susceptible to severe COVID-19 disease. Additionally, most cancer patients are over 65 years old and already have one or more comorbidities, hence making them particularly fragile.

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[202] Nindenshuti, P. M., & Caire-Juvera, G. (2023). Changes in diet, physical activity, alcohol consumption, and tobacco use in adults during the COVID-19 pandemic: a systematic review. Available at: Link

[203] European Cancer Organisation (undated). Covid-19 & Cancer Data Intelligence. Available at: Link

[204] JRC (2023). Cancer care in times of COVID-19: lessons for future pandemics. Available at: Link

[205] Dinmohamed et al. (2020). Fewer cancer diagnoses during the COVID-19 epidemic in the Netherlands. Available at: Link

[206] Ibid.

[207] The Lancet Oncology (2020). COVID-19: global consequences for oncology. Available at: Link

[208] Vintura (2021). Every day counts: The impact of Covid-19 on patient access to cancer care in Europe. Available at: Link

The pandemic has also resulted in **major obstacles to accessing effective cancer care and treatment** as health systems became overloaded and restriction measures were implemented [209]. Alarmingly, outcomes for cancer patients are likely to be negatively affected if the usual standard of care is delayed[210]: for example, treatment delay of four weeks is associated with a 6-13% increase in the risk of death[211]. Delays in cancer diagnosis and treatment have implied that more patients received their diagnoses at a more advanced stage of their disease and, consequently, that they required more complex treatments than they would have required otherwise, and that more deaths from cancers will be witnessed in the coming years[212]. However, the exact magnitude of effects on survival will only become apparent in the next few years[213]. Figures vary depending on national context, the methods used, and the type of cancer, but all the studies show significant delays and increased mortality rates[214,215,216,217].

In the fields of diagnosis and treatment and research, the COVID-19 pandemic clearly showed that things can be done differently, as activities in healthcare facilities were carried out both in person and virtually. While **telemedicine and remote monitoring** faced some resistance before the emergency (e.g. concerns of specialists on payments methods, lack of digital savvy), they were soon adopted by most professionals in order to be able to do their job in spite of the restrictions and became widely accepted as the new standard working methods in many specialties, as also fostered by the new European Health Data Space mentioned in section 2.3.2. Moreover, **hospitals had to be rethought** to protect COVID-negative patients in cancer wards. The pandemic also had major traumatic psychological consequences on cancer patients, since relatives who usually supported cancer patients for diagnosis, treatment, and palliative could not visit them in hospitals[218]. Similarly, the COVID-19 pandemic has also strongly highlighted the need for a **pan-European coordinated approach** in crucial areas like data collection and access,

[209] Vintura (2020). Every day counts: Improving time to patient access to innovative oncology therapies in Europe. Available at: Link

[210] Whiting (2020). As the COVID-19 death toll passes 1 million, how does it compare to other major killers?. Available at: Link

[211] Hanna et al. (2020). Mortality due to cancer treatment delay: systematic review and meta-analysis. Available at: Link

[212] Maringe et al. (2020). The impact of the COVID-19 pandemic on cancer deaths due to delays in diagnosis in England, UK: a national, population-based, modelling study. Available at: Link

[213] Vintura (2021). Every day counts: The impact of Covid-19 on patient access to cancer care in Europe. Available at: Link

[214] Hanna et al. (2020). Mortality due to cancer treatment delay: systematic review and meta-analysis. Available at: Link

[215] Maringe et al. (2020). The impact of the COVID-19 pandemic on cancer deaths due to delays in diagnosis in England, UK: a national, population-based, modelling study. Available at: Link

[216] OECD & European Commission (2022). Health at a Glance: Europe 2022. Available at: Link

[217] Sud et al. (2020). Effect of delays in the 2-week-wait cancer referral pathway during the COVID-19 pandemic on cancer survival in the UK: a modelling study. Available at: Link

[218] Raymond et al. (2020). Impact of the COVID-19 Outbreak on the Management of Patients with Cancer. Available at: Link

diagnostics implementation, and strategy for the development of innovative treatments[219].

The table below presents how the pandemic impacted the pillars of the EBCP.

Table 4. Trends in cancer care emerged during the COVID-19 pandemic

EBCP pillar	Operational objectives	Developments from COVID-19
Prevention	• Achieving a tobacco-free Europe • Reducing harmful alcohol consumption • Health promotion via healthy diets and physical activity	• Negative trends in healthy lifestyle (increased tobacco, nicotine and alcohol consumption, lower physical activity during lockdown periods)
Early detection		• Significant amount of screening tests missed or delayed
Diagnosis and treatment	• Delivering high-quality care	• Delays in accessing cancer care due to overloaded health systems and implementation of restriction measures • Restructuring of hospitals and creation of isolated wards
New technologies, research and innovation	• Making the most of data and digitalisation in cancer prevention and care	• Increased use of telemedicine and remote monitoring
Reducing cancer inequalities		• Increased inequalities

Source: Authors' elaboration.

2.4. Overview of national strategies and measures against cancer

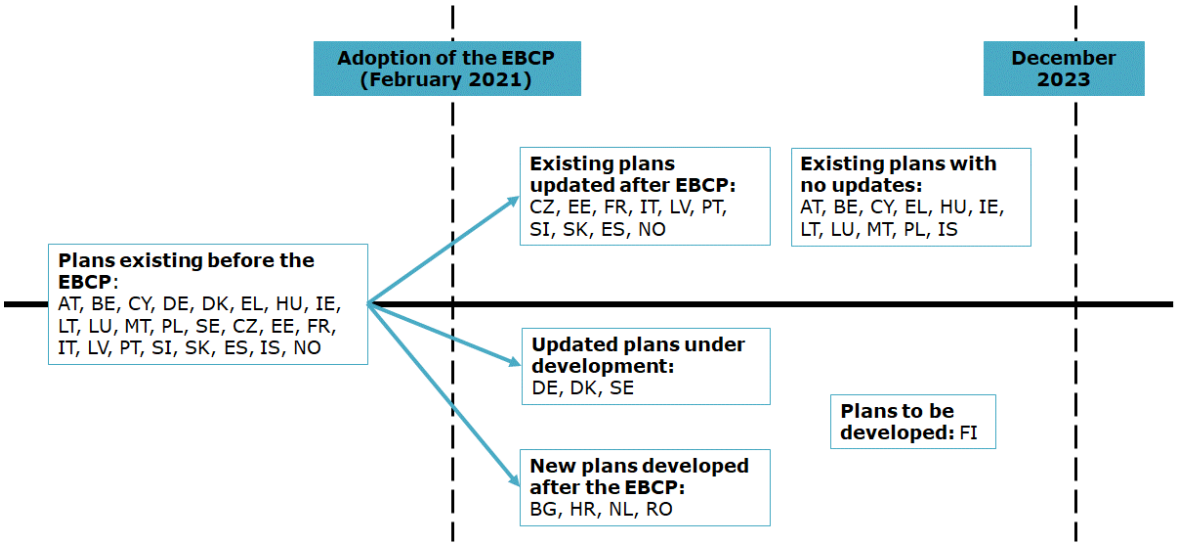
The analysis of the cancer policy landscape covering EU27 Member States, Norway and Iceland, presented in more detail in the country factsheets (see Annex 5) indicates that the majority of countries are implementing a cancer plan with a few exceptions. In this regard, the analysed countries can be classified in different categories:

- Countries with a national cancer plan adopted before the EBCP which:
  (i) did not make further amendments to their plans;
  (ii) which released an update to their cancer plan after the EBCP;
- Countries which released a national cancer plan after the EBCP;
- Countries with no cancer plan in place.

The figure below indicates the countries that fall within each of these categories. It should be noted that our analysis covered policy initiatives up until December 2023.

[219] Sipido et al. (2020). Overcoming fragmentation of health research in Europe: lessons from COVID-19. Available at: Link

Figure 6. Categorisation of National Cancer Plans



Source: Authors' elaboration based on country factsheets.

Only one country, Finland, out of the 29 countries analysed does not have a cancer plan. However, Finland has been implementing several policy initiatives and measures addressing cancer prevention, early detection, diagnosis, and treatment. In our analysis, these other measures have been taken into consideration (not exclusively for this country but for all the analysed countries) as they impact the fight against cancer. It should also be noted that the Netherlands only recently adopted their national cancer plan, in November 2023, just a month before the cut-off time of our analysis.

Among the countries with a national cancer plan pre-dating the EBCP, Greece represents a particular case. A national cancer strategy for the period 2011-2015 was released in 2011 although all activities embedded in the programme were reported to be on halt by the end of 2012. As a result, the country does not currently have a national cancer plan in place but the Greek National Public Health Action Plan (2021-2025) includes provisions on cancer prevention that align with the EBCP.

It is also important to note that in two EU Member States (BE and SE), the national cancer plans date back to a long time, 2008 and 2009 respectively, although Belgium released some amendments to their cancer plan in 2012 and the Swedish national cancer strategy is under revision. Our analysis found that Denmark, Germany and Sweden are currently working on an updated version of their cancer plans to be released. Four EU Member States (BG, HR, NL, RO) did not have a national cancer plan prior to the release of the EBCP and developed one as a response to it. Additionally, 10 countries released a new version of their national cancer plans after the release of the EBCP with the aim of aligning their plans to the EU plan.

Our analysis of the national cancer plans shows that **the majority of cancer plans are well-aligned with the EBCP, covering the four pillars of the disease pathway**. The majority of countries also include provisions touching upon the cross-

cutting themes of research and innovation; paediatric cancer; and reduction of inequalities. In the next sub-sections we delve into each of the four pillars and three cross-cutting themes. For more detailed information on national initiatives please refer to the country factsheets (Annex 5).

The majority of cancer plans analysed are monitored and evaluated by designated national authorities. However, in some cases no specifications on the timing and types of reports for the evaluation are stated. Through desk research, we have identified several monitoring reports released by competent national authorities. For some countries, although evaluation and monitoring reports are specified in their cancer plans, we could not find any release. This can be due to several reasons e.g. either because no reporting has been done, or because the reports are not publicly available.

2.4.1. Prevention

Literacy

All of the countries covered by our analysis include initiatives and measures aimed at reducing lifestyle habits related to cancer-risk factors. As set out in the EBCP, the analysed national cancer plans include initiatives to improve population's health literacy on cancer risks and determinants. For instance, some of the analysed countries have made use of social media to inform younger people on the risks of certain lifestyle habits.

Tobacco

In order to achieve a tobacco-free Europe as stated in the EBCP, and following the transposition of the EU Tobacco Products Directive (2014/40/EU)[220], all Member States have put forward policy initiatives to reduce tobacco consumption. These initiatives include the introduction or increase in tax levies for tobacco-related products; introduction of health warnings in tobacco packages; or the introduction of bans to smoke in certain public spaces. The level of strictness of these new pieces of legislation varies for each country. For instance, the prohibition to ban smoking in certain spaces includes a wider range of spaces for some countries. Likewise, there are significant differences in the amount of tax levies on tobacco-related products. Excise duty for a 20-cigarettes pack is of EUR 9.3 in Ireland, 6.95 in France, and 6.76 in Finland; compared to EUR 1.85 in Bulgaria, 2.05 in Poland, and 2.46 in Croatia[221]. Some national legislation is also more rigorous in terms of labelling and

[220] European Parliament and Council of the European Union (2014). Directive 2014/40/EU of the European Parliament and of the Council of 3 April 2014 on the approximation of the laws, regulations and administrative provisions of the Member States concerning the manufacture, presentation and sale of tobacco and related products and repealing Directive 2001/37/EC. Available at: Link

[221] Hoffer, A. (2023). Cigarette taxes in Europe. Tax Foundation, 3rd October 2023. Available at: Link.

packaging. Notably, some countries have introduced plain or standardised packaging for tobacco-related products (e.g. BE, DK, FI, FR, IE, HU, NL, SI, NO).

Alcohol

In terms of policies related to harmful alcohol consumption, the measures adopted by Member States are less predominant compared to the ones for tobacco smoking reduction. Whereas all EU countries have tax levies for distilled spirits, beers, and other products containing alcohol; the amount of the taxes varies significantly across countries as in the case of the tobacco tax levies. The EBCP indicated that the Commission would propose the introduction of health warnings on labels of alcoholic products before the end of 2023. Meanwhile, according to our analysis, only one country (i.e. IE), has released legislation for the introduction of health warnings in alcohol labelling.

Healthy lifestyle habits

In recent years, the majority of analysed countries have also put forward several policy initiatives to foster healthy lifestyle habits via increased physical activity or improvements in nutrition. In terms of physical activity, several Member States have released guidelines on exercise recommendations; other countries have national strategies to guarantee a minimum of physical education and sports within school curricula; while others have invested in improving sports and recreational infrastructures. In terms of nutrition, the majority of analysed countries have introduced or updated regulations on nutritional standards, in particular within educational settings. Several countries have also introduced tax levies on unhealthy products (e.g. BE, FR, IE, FI, PT, ES, NO). A considerable number of countries have also released obesity action plans since 2018, following the EU Action Plan on Childhood Obesity 2014-2020 (e.g. EE, FI, IE, IT, LT ES).

Environmental pollution

All of the analysed countries have incorporated the EU's air quality standards by incorporating them in their climate action plans or through the release of specific "Clean Air" legislation.

Hazardous substances and radiation

Member States have also released legislative initiatives to fight occupational risks that could lead to cancer. Notably, virtually all analysed countries have action plans or other similar measures to reduce the risk of cancer from exposure to radon as well as for ionising radiation.

Infections

All of the countries have made substantial efforts to achieve EBCP's Flagship 3 of eliminating cervical cancer and other cancers caused by HPV. Indeed, all countries analysed offer **HPV vaccination** to girls within their national immunisation programmes. Moreover, the HPV vaccination has been extended to include boys in several Member States (e.g. AT, CZ, FR, IE, EL, PL, LT, LV, SK, ES, SE). In some other Member States, such as the Netherlands, catch-up campaign programmes have also been established for individuals who had not received full HPV vaccination[222].

Similarly, most EU Member States recommend vaccination of all children against HBV. In addition, countries have various strategies in place to prevent vertical transmission, including screening of pregnant women for Hepatitis B surface antigen (HBsAg), vaccination with the first HBV vaccine dose within 24 hours from birth (also known as 'birth dose') and post-exposure prophylaxis for infants born to HBV-infected mothers. Many EU Member States also recommend vaccination for groups at high risk as well as for health professionals. In terms of preventable cancers, the EBCP also sets the objective of **eradicating Helicobacter pylori infections** by ensuring adequate access to gastric cancer prevention treatments. In parallel, the European Commission is supporting the implementation of gastric cancer screening programmes through the funding of projects such as the GISTAR study conducted in Latvia[223]. The project will provide targeted population the opportunity to perform free examinations for diseases of the gastrointestinal tract, including gastric cancer.

Table 5. Good practice examples on prevention

Country	Good practice example	EBCP operational objective - action
France	Introduced legislation in 2023 by which local pharmacies can prescribe and dispense several vaccines, including the HPV vaccine, for people aged 11 years or more[224].	Preventing cancers caused by infections – Flagship Initiative 3 eliminating cervical cancers and other cancers caused by HPV.
	TABADO programme: aims to help initiate smoking cessation among young students in vocational high schools and family-run rural homes[225].	Achieving a tobacco-free Europe - less than 5% of the population uses tobacco by 2040.
Ireland	Very detailed and extensive policies with respect to cancer prevention, in particular in terms of alcohol consumption policies, Ireland being the first EU country to introduce health warnings in the labelling of alcoholic products[226].	Reducing harmful alcohol consumption – mandatory indication of health warnings on labels

[222] National Institute of Public Health and the Environment (2023). More than two million invitations to get vaccinated against HPV in 2023. Available at: Link.

[223] About GISTAR. Available at: Link

[224] Service Public (2023). Les pharmaciens peuvent désormais vous prescrire et vous administrer vos vaccins. Available at: Link

[225] TABADO. Available at: Link

[226] Department of Health (2023) Ministers of Health bring into law the world's first comprehensive health labelling of alcohol products. Available at: Link

Country	Good practice example	EBCP operational objective - action
	Establishment of Cancer Prevention Network in 2020 comprising competent national authorities, healthcare professionals and voluntary organisations which collaborate in drafting and implementing cancer risk reduction initiatives[227].	Achieving a tobacco-free Europe, reducing harmful alcohol consumption, improving healthy promotion through access to health diets and physical activity; reducing environmental pollution and several others.

2.4.2. Early detection

The vast majority of countries analysed have established cancer screening programmes for breast, colorectal and cervical cancer. There are some exceptions such as Bulgaria which does not have any cancer screening programme in place but offers sporadic screening opportunities through the basic health insurance package offered by the National Health Insurance Fund. Similarly, Romania has not yet established any national screening programme although the 2023-2026 National Cancer Plan includes the development and implementation of a national screening programme[228]. The Romanian government is currently conducting a pilot screening programme for breast cancer, while two government-funded initiatives have been launched to strengthen the health system for the implementation of colorectal and cervical cancer screening in the country[229].

Additionally, Austria only offers a national screening programme for breast cancer while opportunistic screening is available for colorectal and cervical cancer. One of the priorities of Austria's National Cancer Framework Programme is to develop screening programme for colorectal and cervical cancers. In the case of Cyprus, there is no colorectal cancer screening programme in place, but the Cyprus Association of Cancer Patients and Friends (PASYKAF) provides free bowel screening to individuals aged over 45 years old[230]. Luxembourg does not have a national cervical cancer screening programme, although the current national cancer plan envisages the implementation of a cervical cancer screening programme. The government recommends women above 25 years old to take a pap smear test every three years which is later reimbursed by the National Health Fund (CNS).

In 2020, Croatia became the first EU country to introduce a nationwide **screening for lung cancer**. The National Lung Cancer Screening and Early Detection Programme aims at achieving a target population turnout of 60% and to increase

[227] National Cancer Control Programme, Cancer Prevention. Available at: Link

[228] NCCP (2022). Planul Național De Combatere A Cancerului 2023-2026. Available at: Link.

[229] Bărbulescu et al. (2023). A Pilot Colorectal Cancer Study Using Fecal Occult Blood Tests and Colonoscopy to Identify the Weaknesses of the Romanian Public Healthcare System before Implementing National Screening. *International journal of Environmental Research and Public Health,* 20(3): 2531. Available at: Link.; CEDICROM (2023). Basic Project Information. Available at: Link.

[230] PASYKAF (2022). Colorectal Cancer Prevention, Early Diagnosis and Treatment Programme. Available at: Link.

five-year survival rates for lung cancer to 15%[231]. Several other EU Member States have introduced or are planning to introduce pilot programmes for lung cancer screening (e.g. CZ, DK, EE, HU, IT, and ES) following the 2022 update of the Council Recommendation on cancer screening programmes which proposed extending organised screening programmes to cover lung, prostate and gastric cancer based on further research [232]. For instance, Czechia introduced a pilot programme for lung cancer screening in 2022 for people aged between 55 and 74 years old with a smoking history of at least 20 packages per year[233].

Lithuania was the first EU Member State to introduce a **prostate cancer screening** programme in 2016 covering men aged between 50 and 69 years if their father or brother had prostate cancer[234]. It should be noted, however, that cancer screening programmes in Lithuania are opportunistic rather than following a population-based approach targeting specific at-risk population. Notably, the general practitioners refer patients to take part in the screening if suspicious findings are detected. As of 2023, prostate cancer screening is also included in the population screening programmes offered in Cyprus, initially targeting men aged over 50 years old[235]. In Sweden, the National Board of Health and Welfare released recommendations for the roll out and coordination of a prostate cancer screening programme[236].

Nevertheless, it should be noted that **coverage and participation rates in screening programmes significantly vary across countries**. In section 0, we offer a more detailed overview on how these rates vary across EU Member States. Overall, participation and coverage rates are increasing to achieve the objective of the EBCP's Flagship 4 to put forward a new EU-supported Cancer Screening Scheme that helps Member States to ensure that 90% of the EU population who qualify for it have access to breast, cervical and colorectal cancer screenings by 2025. It is important to note that in some cases, having a screening programme in place is not related to higher participation rates. For instance, in the case of Luxembourg although there is no cervical cancer screening programme in place, coverage and participation rates are among the highest in the EU.

[231] Croatian Ministry of Health (2020). Nacionalni Programme Za Probir I Rano Otkrivanje Raka Pluća 2020 – 2024. Available at: Link.

[232] Council of the European Union (2022). Council Recommendation of 9 December 2022 on strengthening prevention through early detection: A new EU approach on cancer screening replacing Council Recommendation 2003/878/EC. Available at: Link.

[233] National Health Information Portal (2022). Rakovina plic: prevence, screeningový program.. Available at: Link.

[234] Lithuanian Ministry of Health (2005). Order on the approval of the funding programme for early diagnosis of prostate cancer. Available at: Link.

[235] Agapiou, G. (2023Men to be offered screening for prostate cancer. Available at: Link.

[236] National Board of Health and Welfare (2018). Screening för prostatacancer – Rekommendation och bedömningsunderlag. Available at: Link.

Table 6. Good practice examples on early detection

Country	Good practice example	EBCP operational objective - action
Croatia	First EU country to introduce a nationwide screening for lung cancer in 2020[237].	Improving early detection of cancer – adoption of updated Council Recommendation on cancer screening
Estonia	Participation rates in cervical cancer screening were low. The Estonian government succeeded to increase screening uptake with the introduction of HPV self-sampling tests[238].	Improving early detection of cancer – ensure that 90% of EU population who qualify for breast, cervical and colorectal cancer screenings are offered screening by 2025.
Lithuania	First EU country to introduce a nationwide screening for prostate cancer in 2016[239].	Improving early detection of cancer – adoption of updated Council Recommendation on cancer screening
Slovenia	Consulted stakeholders acknowledged the capacity of the country to roll out quality cancer screening programmes despite being a small size country. Slovenia will also introduce lung and prostate cancer screening within their national programmes as of 2024[240].	Improving early detection of cancer – ensure that 90% of EU population who qualify for breast, cervical and colorectal cancer screenings are offered screening by 2025.

2.4.3. Diagnosis and treatment

All analysed cancer plans have a dedicated section on measures and actions to improve diagnosis and treatment. The actions encompassed under this section cover a wide range of initiatives which share common objectives but vary in nature. We identified some common types of initiatives across national cancer plans.

High-quality care

The Commission has developed European guidelines on quality assurance for breast, colorectal and cervical cancer[241]. The guidelines aim at providing essential levels of quality care that are equally accessible across Europe. Additionally, to ensure the delivery of high-quality care, the EBCP Flagship initiative 5 intends to create an EU Network of recognised National Comprehensive Cancer Centres

[237] Croatian Ministry of Health (2020). Nacionalni Programme Za Probir I Rano Otkrivanje Raka Pluća 2020 – 2024. Available at: Link.

[238] Veerus et al. (2021). Human papillomavirus self-sampling for long-term non-attenders in cervical cancer screening: A randomised feasibility study in Estonia. *Journal of Medical Screening,* 29(1). Available at: Link.

[239] Lithuanian Ministry of Health (2005). Order on the approval of the funding programme for early diagnosis of prostate cancer. Available at: Link.

[240] STA (2023). Prihajajo novi presejalni programmei za raka pljuč in prostate. Available at: Link.

[241] European Commission (2023). Breast/colorectal/cervical cancer guidelines and quality assurance. Available at: Link.

(CCCs) in every Member State by 2025[242, 243]; as well as supporting the establishment of a European Network of Expertise for, among others, personalised primary prevention, survivorship, or palliative care. Since 2007, the Organisation of European Cancer Institutes (OECI) has certified CCCs in 12 of the analysed countries (i.e. BE, CZ, DE, FI, FR, HU, IT, PT, NL, SE, ES, NO), with the list expanding as more institutions are applying for the certification[244]. A similar certification programmes is run since 2005 by the German Cancer Aid supporting the establishment of top oncology centres in Germany, currently 15 university locations have been certified[245].

Most of the analysed countries also have in place political initiatives with regard to **palliative cancer care** with just some few exceptions. In particular, some of the analysed countries are making efforts to provide palliative care to patients at home (or near their home). For instance, in Slovakia there were 18 mobile hospice homes for patients in palliative care in 2021[246]. Similarly, a crucial aspect of the Danish Cancer Plan is to expand the provision of palliative home treatment and other forms of treatment that match patients' wishes and needs[247].

Personalised medicine

Most of the analysed national cancer plans include the aim of boosting personalised treatment in the coming years. In this respect, in the analysed cancer plans there are initiatives and measures to increase cancer patients' involvement in the decision-making process related to their treatment (i.e. CZ, DK, IE). In some countries, patients are even involved in terms of policy decision-making. Notably, in 2021 in Czechia, a Patient Council was established as a permanent advisory body to the Ministry of Health composed of 25 representatives of patient organisations which meet at least four times a year with the Ministry[248]. The Patient Council also establishes working groups dedicated to the protection of rights and the fulfilment of patients' needs.

Access to medicines

The analysed national cancer plans include very few provisions on how to facilitate access to oncological medicines. In some cases, Member States have established

[242] The EurocanPlatform project developed the methodology on the definition and criteria to identify and recognise CCCs. Source: Ringborg et al. (2018). European Academy of Cancer Sciences – Designation of Comprehensive Cancer Centres of Excellence. Available at: Link.

[243] European Commission (2023). Flagship initiatives. Available at: Link.

[244] OECI (2023): The OECI Network – Membership. Available at: Link.

[245] For more information, please refer to: Link

[246] National Oncology Institute (2023). State of Oncology in Slovakia – Annual Report 2022. Available at: Link.

[247] Danish Ministry of Health (2016). Kræftplan IV. Available at: Link.

[248] Czech Ministry of Health (2021). Pacientská rada 2021–2025. Available at: Link.

national authorities (e.g. Danish Health Technology Council (DK), New Therapies Council (SE)) to reduce the cost and time to availability of such medicines. In other instances, Member States have made efforts in negotiating entry agreements (e.g. LV). To improve access to innovative medicines, some Member States have introduced policy reforms such as the amendment to the Public Health Insurance Act (CZ), or the reform to the Temporary Authorisation for Use system (FR).

High-quality workforce

The EBCP also aims at ensuring a high-quality health workforce. In this regard, several of the analysed national cancer plans have specific sections on the oncological training of healthcare professionals (e.g. IT, RO, SI). Several countries are encouraging the establishment of **multidisciplinary oncological teams** that include different specialists such as surgeons, medical doctors, radiologists, or nurses. For instance, in Denmark the Danish Multidisciplinary Cancer Group (DMCG) was established in 2005 which encompasses 25 cancer disease specific groups across the country[249], which work together on the implementation of clinical quality databases and the preparation of clinical guidelines for diagnostics and treatment.

Table 7. Good practice examples on diagnosis and treatment

Country	Good practice example	EBCP operational objective - action
Germany	Certification programme initiated by the German Cancer Society to establish quality-assured cancer centres with the aim of enhancing oncological care for patients[250].	Delivering higher-quality care – Flagship Initiative 5 establishment of a EU Network of Comprehensive Cancer Centres by 2025 to which 90% of eligible patients have access by 2030.
Sweden	The introduction of standardised cancer care pathways in 2015 was identified by stakeholders as a good practice example. Preliminary findings of the standardisation found that it helps shorten waiting times, while patients' satisfaction levels increased as a result of the more transparent process[251].	Delivering higher quality care – share expertise across the EU and provide answers, certainty and hope to patients where before there was none.

2.4.4. Quality of life of cancer patients and survivors

Among the four pillars of the EBCP, the one on the **quality of life of cancer patients, survivors and their carers is the one that is less commonly addressed**.

As part of this pillar, several Member States implemented or have introduced **patients' support groups** within hospitals, as well as networks at local, regional or

[249] Danish Multidisciplinary Cancer Group (2023). Om DMCG. Available at: Link.

[250] German Cancer Society. Certification. Available at: Link

[251] OECD (2023). EU Country Cancer Profile: Sweden 2023. Available at: Link

national level. However, in general terms, patient support activities are usually undertaken by not-for-profit and non-governmental organisations such as the different national Cancer Leagues, or patients' associations. In the case of the Slovenian cancer plan, a direct reference is made to the need for coordination and mutual support with these organisations to effectively implement their cancer policy initiatives and to achieve the set objectives in terms of the fight against cancer.

In some of the analysed countries, governments have implemented legislation to provide **financial support** for cancer patients and their family who might need to give up their job to take care of them, sometimes in the form of paid carer leaves (e.g. FI, FR, RO, ES). In addition, a growing number of Member States highlight within their national cancer plans the importance of mental health for both cancer patients and their relatives. In this regard, several analysed countries include the provision of free-of-charge **psychological support** to cancer patients (e.g. DE, ES, IE, PT).

To improve the quality of life of survivors, several of the analysed countries have introduced policies that go beyond the reduction of side-effects related to improved treatment. For instance, as set out as a recommended action in the EBCP, several countries are improving cancer survivors' access to financial services via the establishment of a "**right to be forgotten**" legislation (i.e. BE, CY, FR, NL, PT, RO, ES and IT) or through voluntary initiatives (i.e. IE, LU, CZ). Additionally, other pieces of legislation sometimes include clauses protecting vulnerable groups when engaging in contractual agreements. For instance, in Sweden, vulnerable groups such as cancer patients and survivors are protected in insurance contract law with the obligation to contract. That is, insurance companies cannot refuse to give a person health insurance within their standard range of insurance products[252]. The EBCP also set out recommendations to improve cancer patients and survivors' return to work. However, our analysis shows that there are few countries who have implemented policies aiming to facilitate the reintegration of cancer patients and survivors in the job market (e.g. BE, FR, IT, LU).

Table 8. Good practice examples on quality of life

Country	Good practice example	EBCP operational objective - action
Luxembourg	Stakeholders consulted mentioned the legal framework in Luxembourg facilitating professional reintegration of former cancer patients following recovery through a gradual return to work, adaptation of working environment, professional position reclassification, etc[253].	Improving the quality of life for cancer patients, survivors, and carers – measures to facilitate social integration and re-integration in the workplace.

[252] Sveriges Riksdag (2022). Försäkringsavtalslag (2005: 104). Available at: Link.

[253] Journal Officiel du Grand-Duché de Luxembourg (2018). Loi du 10 août 2018 en matière de maintien du contrat de travail et de reprise progressive du travail en cas d'incapacité prolongée. Available at: Link.

Country	Good practice example	EBCP operational objective - action
Several Member States	Introduction of a "right to be forgotten" in legislation (i.e. BE, CY, FR, NL, PT, RO, ES and IT) or through voluntary initiatives (i.e. IE, LU, CZ) to facilitate cancer survivors' access to financial services.	Improving the quality of life for cancer patients, survivors, and carers – address fair access for cancer survivors to financial services.

2.4.5. Cross-cutting themes

2.4.5.1. Research, innovation, and technologies on cancer

Research is crucial to guarantee that cancer patients have access to improved quality care with less side-effects, as well as to find more effective and less invasive diagnosis tools. Although the actions foreseen under the EBCP for research and innovation are mainly at EU level, many of the analysed countries have launched programmes and action plans aimed at fostering cancer research. In some cases, research is one of the priorities within national cancer plans (e.g. HR, IE, LU, MT, PL, RO, SI, ES). In the case of the French national cancer plan, each of the priority areas listed contains an objective and targeted actions dedicated to research and innovation.

All Member States have established **Cancer Registries**, although three EU Member States (i.e. IT, ES, RO) do not have a national cancer registry but several regional ones. It should be noted that the Italian and Romanian national cancer plans include the objective of setting up a national cancer registry. The Commission plans to launch a call for direct grants to Member State authorities under the EU4Health Programme to support quality improvement of cancer registry data feeding the European Cancer Information System[254].

It is important to mention that there are also differences in terms of funding allocated to research across EU Member States. Similarly, our analysis found differences in terms of the number of clinical trials, cancer-related projects (according to CORDIS database), and of medical research institutes. In this regard, small countries have a systemic disadvantage as their cancer centres are relatively small with limited workforce and patients to conduct clinical trials. To overcome these limitations, some countries such as Luxembourg have developed transnational research collaborations to ensure their access to innovative treatments. This challenge could be alleviated with the implementation of the European Health Data Space (EHDS). Researchers will have the possibility to request access to a wide range of health data across Europe in a harmonised and timely manner through the HealthData@EU infrastructure.

[254] European Network of Cancer Registries (2024). Major opportunity for all European Cancer Registries: Direct grant to support quality improvement. Available at: Link.

2.4.5.2. Reduction in cancer inequalities

One of the objectives of the EBCP is to reduce disparities across the EU in terms of access to high-quality cancer care, in particular for timely diagnosis and treatment. Our analysis demonstrated that disparities are also a concern between regions within analysed countries, in particular for those with decentralised healthcare competences at the regional level.

Moreover, in virtually all Member States there are disparities in terms of cancer incidence, mortality, prevalence of cancer-risk factors or participation in screening programmes between population with different socio-economic levels. In this respect, several Member States have introduced initiatives that specifically tackle at-risk population. Many of the analysed countries have introduced "**mobile units**" to improve participation in cancer screening programmes. For instance, in Germany approximately 70 mobile screening buses have been deployed in rural areas[255]; in the Netherlands there are 59 mobile breast cancer units against 10 permanent ones[256]; while in Greece a national screening programme has been rolled out using Mobile Health Teams for the elderly in remote areas (e.g. mountainous regions, small and very small islands)[257]. In other cases, analysed countries have implemented **prevention programmes that specifically focus on "at-risk population"** such as the Tabado programme in France[258]. The reduction of inequalities is in fact one of the priority areas of the French national cancer plan. In some few cases, analysed countries have dedicated action plans to reduce health inequalities in the country, such as the case of Lithuania[259].

2.4.5.3. Paediatric cancer

Some of the analysed national cancer plans include paediatric cancer as a priority area (e.g. AT, CY, DK, FR, SK, ES). For the other analysed countries, in general terms, national cancer plans include initiatives and objectives with respect to paediatric cancer under the umbrella of other priority areas such as improved diagnosis and treatment; or quality of life of cancer patients and survivors. Examples of such initiatives include the implementation of psycho-social support mechanisms for patients and their families (e.g. EL), or the establishment of advisory and support groups (e.g. IE).

To better tackle paediatric cancer and understand the long-term effects of the illness and its treatment, several of the analysed countries have specific cancer registries focused on paediatric cancer (e.g. DE, FR, HU, RO, SI). Similarly, the Danish

[255] Mammography-Screening-Programme. Available at: Link.

[256] Dutch National Institute of Public Health and the Environment (2023). Breast Cancer Screening Programme. Available at: Link.

[257] Ministry of Health (2020). National Public Health Action Plan (2021-2025). Available at: Link.

[258] TABADO. Available at: Link.

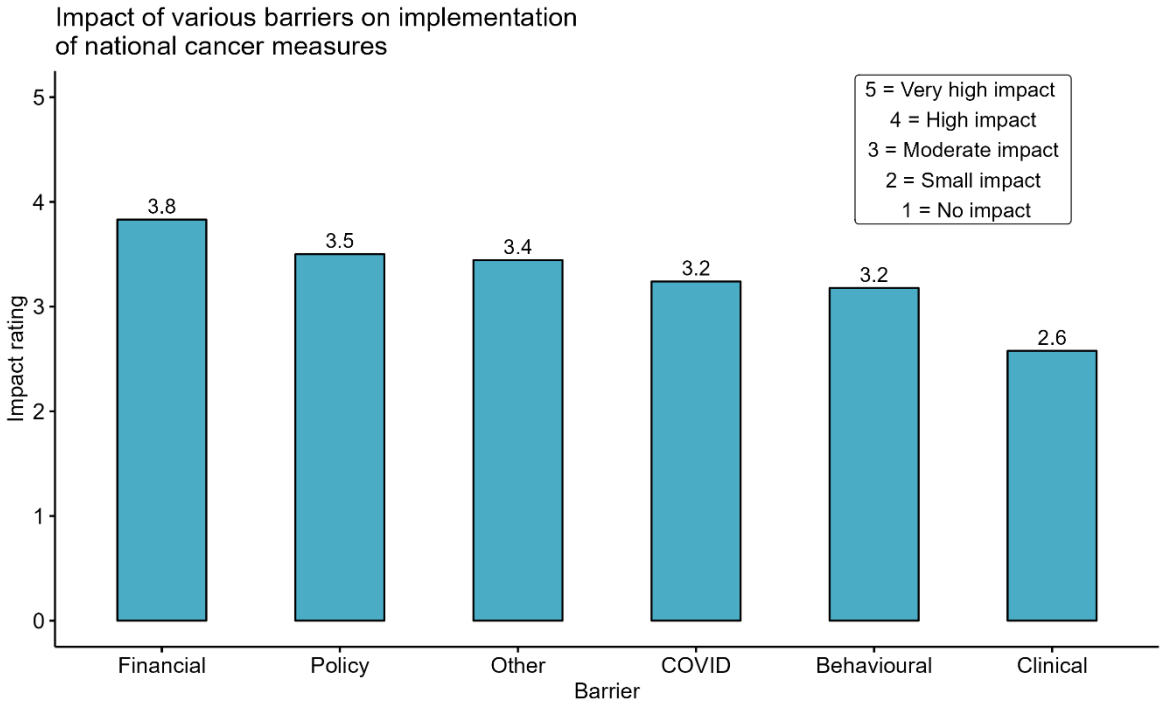
[259] Seimas of the Republic of Lithuania (2014). National Action Plan for reducing inequalities 2014-2023. Available at: Link.

government established, as part of its cancer plan, “sequelae units” to specifically follow-up on the effects of cancer treatment on children with cancer.

2.5. Barriers to implementing national strategies and measures against cancer

The barriers to implementing national strategies and measures against cancer included COVID-19, policy and institutional, clinical, financial, behavioural, or other barriers. In the figure below, we present the average impact of each of the barriers according to the survey respondents across all four stakeholder categories (see Annex 4) [260]. The following sections provide details about the specific barriers encountered for each type of barrier at a pan-European level. For more details on the country-specific barriers faced within each Member State, Iceland and Norway, please refer to the country factsheets in Annex 5.

Figure 7. Average impact rating across all survey respondents by type of barrier impacting the implementation of national cancer related measures.



Source: Authors’ elaboration based on study survey with national stakeholders.

When taking a pan-European view, according to the survey responses, **financial barriers** are the most commonly reported impact on the implementation of national cancer related measures followed by **policy barriers** and **other barriers**. Examples

[260] Surveyed stakeholders across different stakeholder groups, including national authorities, civil society organisations (CSOs), healthcare professionals and industry representatives were asked to rate how various types of barriers impact the implementation of national cancer related measures within their country. A total of 82 responses were received from national stakeholders in the targeted survey, with no responses from Czechia, and Norway.

of other barriers include challenges related to digital health innovation and geographical disparities. Clinical barriers were the least reported impact on the implementation of national cancer-related measures. In what follows, we will present an overview of the various areas of the cancer care pathway affected by each of the above-mentioned barriers across all EU Member States, Iceland and Norway, along with some good practices identified to address the various barriers. A more detailed description of country specific barriers can be found in the country factsheets found in Annex 5.

2.5.1. Financial barriers

The survey responses highlight various financial barriers that impact the implementation of national cancer-related policies and measures across EU Member States. These responses can be grouped into several common themes, each with its specific concerns.

Cost of healthcare services and accessibility

Numerous stakeholders pointed out the rising costs of healthcare services, particularly anti-cancer measures. Health professionals emphasised the increasing expenses associated with screening, diagnostic tests, and treatments. National authorities and health professionals highlighted high costs for specific interventions and new drugs, affecting the overall budget and sustainability of healthcare systems. They highlighted that these costs could have a major impact on the financial sustainability of healthcare systems.

Insufficient funding for cancer plans and lack of thorough cost-benefit analysis

Some CSOs and national authorities brought attention to the lack of specific financial resources allocated for addressing the strategic objectives of National Cancer Plans. They noted that this insufficiency rendered these plans unfeasible and hindered their implementation. National authorities point to the importance of governance in ensuring financial coverage for such programmes. Additionally, national authorities expressed concerns about the lack of thorough cost-benefit analysis, which affected the allocation of budgets to health care. These financial constraints hindered the implementation of policy decisions and measures.

Limited Funding for Prevention and Early Detection

Stakeholders highlighted that budget restrictions often affected prevention, early detection, quality of life programmes, research, and efforts to reduce cancer inequalities more than the diagnosis and treatment of symptomatic patients. Health professionals and CSOs emphasized the need for additional resources in these areas.

Funding for research and innovation

Stakeholders from various categories, including CSOs and industry, identified the limitations in research funding and the reluctance to invest in non-therapeutic aspects, such as prevention. The lack of investment in research, especially in childhood cancers, was a specific concern. Industry representatives noted that a large proportion of healthcare spending was directed towards treatments rather than detection and prevention. Respondents also noted delays in funding for innovative techniques and medications. This issue was raised by national authorities, industry, and health professionals.

Affordability of healthy lifestyles

CSOs highlighted the impact of pricing and taxation policies on cancer prevention. They mentioned that while costs of healthy foods and sustainable diets increased, pricing and taxation policies related to tobacco and alcohol products remained largely unchanged. This led to an increase in the unaffordability and unavailability of healthier options, affecting a significant portion of the EU population.

Resource allocation and inequalities

CSOs raised the issue of financial resource allocation. They emphasized that inequalities in healthcare access were linked to disparities in wealth and employment. Furthermore, stakeholders highlighted inequalities in access to care and the quality of care between urban and rural regions.

Inadequate health infrastructure

Health professionals and CSOs pointed out the need for more health care professionals, updated screening stations, and better access to drug treatments, palliative care, and oncology care. The lack of resources and funding was a significant barrier to improving health infrastructure.

Enhancing the financial sustainability of healthcare systems is vital to provide better care to cancer patients and to reduce the burden of cancer across the EU. In the box below we present some good practices presented by the various stakeholders to address the financial barriers described above.

Box 1. Self-reported good practices addressing financial barriers

1. Offer financial incentives to individuals and employers via health and social insurers to encourage and make it more affordable for them to adopt cancer prevention measures (BE).
2. Implement a national multidisciplinary cancer-care roadmap with a focus on digital and innovative capabilities, reducing the use of oncology care for generating incentives (BG).
3. Utilise EU funds for various aspects of cancer care and research (HR).

4. Involve charities, private donations, and grants to support cancer care and research initiatives (FR).
5. Implement contract monitoring and refund mechanisms to ensure the proper use of funds (EE).
6. Allocate budgets and resources effectively for research, healthcare, and public health, including the funding of research projects (BE, FR, ES).

Source: Authors' elaboration based on study survey with national stakeholders.

2.5.2. Policy and institutional barriers

The survey responses shed light on the multifaceted challenges in the implementation of national cancer-related policies across EU Member States.

Lack of political will and prioritisation

CSOs and healthcare professionals expressed concerns about the absence of clear political will regarding the National Cancer Plan in some countries, with some governments not prioritising cancer care. This lack of commitment affects the allocation of resources and the implementation of comprehensive policies. Additionally, political differences and disagreements among parties or political figures can hinder the implementation of National Cancer Control Plans and the development of delegated acts.

Institutional challenges

One of the most prominent issues is the existence of **structural deficiencies** in the institutional framework. Many Member States face a lack of **coordination**, oversight, collaborative mechanisms, opportunities for timely action, and the capacity to consult across sectors and with diverse stakeholders. As a result, measures such as cancer preventive measures are often introduced without effective coordination. The lack of collaboration, networking, and engagement between institutions and civil organizations, resulting in a fragmented healthcare system and services was emphasised as a significant barrier to progress by multiple stakeholders, particularly CSOs. Health equity assessments are not adequately performed, and **solutions are fragmented**. Regional disparities within countries also posed challenges, with some regions having well-established networks and others still in the developmental phase. This institutional deficiency was emphasised by various stakeholders, including national authorities, CSOs, and health professionals.

Prevention and education challenges

A key aspect of cancer control involves prevention and education. Several stakeholders highlighted the need for more educational measures aimed at sensitising younger generations about healthy lifestyle choices. These measures should encompass the importance of a healthy diet, avoiding obesity, increasing

physical activity and avoiding tobacco and excessive alcohol consumption, as well as ensuring access to vaccines like the ones for HPV for preventing certain cancers. The importance of including these topics in educational curricula was stressed by CSOs and health professionals.

Research and Development Hurdles

Healthcare Professionals from different regions pointed out that research and innovation are not always regarded as crucial for improving healthcare effectiveness and efficiency. Industry representatives pointed out systematic and bureaucratic hurdles that limit innovative research and development of new cancer therapies. CSOs also mentioned delays in the implementation of innovative techniques and medication funding. These barriers have the potential to slow down the advancement of cancer treatments.

Lack of Data and Monitoring, Privacy and Data Sharing Challenges

Several respondents, especially health Professionals and CSOs, mentioned a lack of adequate data and databases for screening programmes and patient information. This shortage of data hindered effective policy planning. Issues related to data privacy conflicts were highlighted by health professional representatives. Directors of healthcare institutions were hesitant to share patient, tumour, and treatment data due to privacy legislation conflicts. This limited data sharing between institutions hinders collaborative research efforts.

Lack of national cancer registry

CSOs and national authorities underlined the challenges arising from the lack of a national cancer registry in some instances. Lack of a national cancer registry was a notable issue in certain countries, such as Greece. This absence hinders the monitoring of cancer incidence, the ability to inform health policy, and support for research.

Lack of clarity and direction

The absence of Ministry directives and the lack of a unified strategy in certain countries poses challenges for health professionals. The focus on reducing cancer inequalities was insufficient in some cases.

Overcoming these challenges is crucial to improving cancer control efforts across EU Member States. In the box below we present some good practices presented by the various stakeholders to address the policy and institutional barriers described above.

Box 2. Self-reported good practices addressing policy and institutional barriers

1. The creation of multi-stakeholder platforms and mirror groups that collaborate to identify needs, discuss gaps, and provide recommendations and priorities for the development of National Cancer Plans and in the policy-making process. This approach enhances transparency and accountability in policy development (BE, BG, EE, HR, PT, LT).
2. Establishing national guidelines with strict timelines for proposed actions, ensuring clear accountability for implementing cancer-related measures (HR).
3. The creation of dedicated cancer institutes, often jointly supervised by relevant ministries, to provide an integrated vision of health, scientific, social, and economic dimensions of cancer. These institutions can help accelerate progress by coordinating efforts (FR).
4. Implementing legislation for free screening programmes for various cancer types, including cervical, colorectal, lung, and breast cancer (EE, GR, LT).
5. Launching programmes aimed at improving health and population literacy, which can help address barriers related to prevention and early diagnosis (PT).

Source: Authors' elaboration based on study survey with national stakeholders.

2.5.3. Other barriers

The survey responses highlight several common themes related to other barriers affecting the implementation of national cancer-related policies across EU Member States.

Geographical and socioeconomic inequalities

CSOs mentioned geographical and socioeconomic disparities as barriers, affecting the equal access to cancer treatments and exacerbating existing inequalities. National authorities and CSOs pointed out that societal inequalities and mistrust in the healthcare system, often influenced by the socioeconomic and political environment, can be challenging to address within the framework of cancer policies.

Delayed e-health implementation and data availability

National Authorities highlighted challenges related to e-health implementation, including delayed adoption and the lack of electronic health records (EHRs) . These issues impact the real-time examination of progress in national cancer strategies. Furthermore, the availability of relevant data can be a barrier to evaluating the effectiveness of cancer policies.

In the box below we present some good practices presented by the various stakeholders to address the other barriers described above.

Box 3. Self-reported good practice addressing other barriers

1. Encourage collaboration between the Ministry of Health, non-governmental organisations, and cancer support associations to organise or provide services to oncology patients (LT, SE).

2. Use mobile units to reach inhabitants in small islands, remote villages, and developing rural regions, increasing access to cancer screening (HU, GR).
3. Development of digital infrastructure across the country to capture cancer related information on diagnosis and treatment (IE).

Source: Authors' elaboration based on study survey with national stakeholders.

2.5.4. Impact of COVID-19

The COVID-19 pandemic presented an unprecedented challenge for healthcare systems across EU Member States. As nations grappled with the immediate and overwhelming effects of the pandemic, the broader repercussions on national cancer-related policies and measures became increasingly evident. Survey responses from various stakeholders shed light on common themes and barriers faced during the pandemic.

Resource reprioritisation and diversion

Healthcare professionals and CSOs noted a significant shift in resources away from cancer-related programmes. The urgent need to combat the pandemic prompted a sudden reorganisation of health facilities, with a focus on managing COVID-19 cases. Financial and human resources, crucial for cancer prevention and health promotion programmes, were diverted elsewhere to cope with the pandemic. This redirection had detrimental consequences, deprioritising initiatives in healthy nutrition, childhood obesity, and physical activity in schools and urban areas.

Delays and disruptions

Stakeholders across the board, including CSOs, health professionals, industry representatives, and national authorities, reported various forms of disruption. Screening programmes were temporarily halted, diagnoses were delayed, and patient visits decreased significantly. Notably, some prevention programmes, such as HPV vaccination programmes, were also affected. CSOs and industry representatives highlighted the effect on cancer research with limited access to research laboratories and clinical trials delayed. In addition, individuals' fears of visiting hospitals during the pandemic resulted in a decrease in cancer diagnoses. Public healthcare units faced an overload, and a temporary repurposing of examination facilities highlighted the strains imposed on healthcare systems. The subsequent effect was the identification of cancers at later, more advanced stages. With healthcare systems overwhelmed by the pandemic, waiting times for operations and treatments for cancer also increased. The delay in implementing national cancer policies and programmes became a prevailing issue, with insufficient elaboration on addressing these effects.

Lack of proactive measures

Some respondents pointed out the lack of proactive measures and insufficient preparation to address the pandemic's impact on national cancer plans. The absence of readiness hindered the timely response to the challenges posed by the pandemic.

Health Inequalities and Social Impact

National authorities observed that the pandemic exacerbated social inequalities in health and altered population lifestyles. There is a lack of trust in health policies, and health systems faced challenges related to delayed care for chronic diseases and long-term health consequences associated with COVID-19.

In summary, resource reprioritisation, delays, disruptions, and the impact on research and diagnostics emerged as the primary barriers. These insights underscore the need for proactive planning and resource allocation strategies to ensure the continued prioritisation of cancer care and prevention during health crises. In the box below we present some good practices presented by the various stakeholders to address the COVID-19 barriers described above.

Box 4. Self-reported good practices addressing COVID-19 barriers

- Adaptation of cancer-related services to ensure continuity and minimise delays in cancer care (BE, HR, DK, EE, FR, DE, GR, HU, IE, IT, MT, NL, PL, PT, SI).
- Conducting impact assessments to evaluate the effects of COVID-19 on cancer patients' journeys, delays in care, and changes in the healthcare system (BE, FR, DE, LU, NL, PT, ES).
- Collaborative efforts among various stakeholders, including healthcare professionals, governmental bodies, and non-governmental organisations, to address COVID-19's impact on cancer care (FR, DE, LU).
- Maintaining public awareness of screening and prevention programmes through initiatives, campaigns, and multistakeholder projects (BE, FR, DE, PT, SI, SE).
- Using telehealth and various communication channels to keep patients engaged, even during the pandemic (HR, GR).
- Allocating resources effectively to address the shortages and challenges brought about by the pandemic (IT, DE, NL, SI).

Source: Authors' elaboration based on study survey with national stakeholders.

2.5.5. Behavioural barriers

The survey responses highlight several common themes related to behavioural and cultural barriers impacting the implementation of national cancer-related policies across EU Member States.

Lack of stakeholder alignment and cultural awareness

CSOs and national authorities expressed concerns about the lack of unified positions and awareness among stakeholders regarding the National Cancer Plans. This lack of alignment hinders the effective implementation of cancer policies. In addition, some stakeholders pointed out cultural characteristics and differences in rural regions as barriers that affect the adoption of these policies.

Behavioural and knowledge barriers

Healthcare professionals and CSOs emphasised the presence of behavioural barriers among the general public. These barriers include low health literacy, reluctance to participate in screening programmes, and resistance to change in daily habits and lifestyles such as dietary choices, exercise, and substance consumption, which was noted as a significant barrier to prevention efforts. Health professionals also noted that people may not think about disease prevention when they are healthy. The above-mentioned factors affect the successful implementation of preventive and early detection programmes.

Resistance to change in healthcare practices

Stakeholders, including CSOs and industry associations, identified resistance to change among healthcare professionals and practitioners. This resistance affects the organisation of cancer care and the implementation of multidisciplinary approaches. There may also be a lack of motivation among healthcare professionals, reluctance to work extra hours, and limited engagement in prevention, home care, and palliative care.

Communication and patient-centred care

CSOs highlighted mixed opinions from cancer patients about how healthcare professionals communicate with them. The need for more patient-centric care, especially in rehabilitation and quality of life support, was also underscored as a barrier. Additionally, the lack of comprehensive and multidisciplinary guidance in the care provided to cancer patients impacts their overall quality of life. Some national authorities and healthcare professionals mentioned an overemphasis on medical aspects over psychosocial aspects and the quality of life of cancer patients and survivors. This emphasis on technical care may neglect the holistic needs of patients and survivors.

Patient advocacy

The lack of patient advocates participating in policy decisions was also noted as a barrier to raising awareness and ensuring a holistic approach to patient care.

Lack of priority for prevention.

Some national authorities and healthcare professionals indicated that cancer prevention programmes and survivor support were not given a high priority in healthcare systems, affecting the implementation of related policies.

To overcome these barriers, there is a need for increased awareness, better alignment among stakeholders, patient-centred care, and efforts to enhance health literacy and change behaviour at both the individual and healthcare provider levels. Additionally, recognising the cultural diversity and variations in different regions is essential in developing effective cancer policies. In the box below we present some good practices presented by the various stakeholders to address the behavioural barriers described above.

Box 5. Self-reported good practices addressing behavioural barriers

1. Use tools, information campaigns, symposia, scientific publications, websites, and social networks to promote knowledge and best practices among patients, healthcare professionals, and the general population (BG, HR, FR, DE, LU, SI, ES).
2. Offer incentives to healthcare professionals, such as physicians, for their involvement in screening programmes and referring patients (HR, LU).
3. Foster a collaborative multistakeholder approach to cancer care and research, enhancing motivation among various parties involved (BE, GR).
4. Leverage the role of professional societies in promoting treatment guidelines, best practice recommendations, and key activities in oncology (RO).
5. Build clinical pathways and coordinate cancer care within the framework of multidisciplinary teams, aiming for better coordination between hospitals and primary care (PT, ES).

Source: Authors' elaboration based on study survey with national stakeholders.

2.5.6. Clinical barriers

The survey responses offer valuable insights into the clinical barriers affecting the implementation of national cancer-related policies across EU Member States. These responses can be categorised into several common themes, as described below.

Lack of alignment with clinical practices.

Several stakeholders raised concerns about the misalignment between national cancer policies and clinical practices. They noted that clinical guidelines were not always adapted to the objectives of the National Cancer Plans, resulting in challenges in their implementation. In addition, stakeholders pointed out a high level of heterogeneity at the national level regarding the application of international guidelines and the absence of national guidelines for various forms of cancer. This divergence was particularly evident in non-university hospitals and rural healthcare

facilities. Industry representatives also mentioned the outdated translation and interpretation of clinical guidelines.

Challenges in clinical data collection.

An issue that resonated among various stakeholders was the limited capacity of clinical practice to collect data on cancer prevention and inequalities. While clinical biomedical surveillance was in place, it often failed to capture the socioeconomic realities of cancer morbidity, mortality, and their risk factors. CSOs highlighted this challenge, emphasizing that clinical practices were not adequately equipped to address sociodemographic disparities.

Lack of multidisciplinary approaches.

The absence of inter-professional and multidisciplinary approaches in cancer care emerged as a concern. CSOs underscored the need for multidisciplinary standard operating procedures and the implementation of international guidelines in clinical practice processes. The engagement of general practitioners in cancer care was also noted as an area that required improvement.

Clinical research and innovation.

Several stakeholders expressed concerns regarding the lack of attention and financing for clinical research in oncology. This lack of focus and funding for innovation in clinical practice had a negative impact on patient care.

Delayed access to clinical services.

National Authorities pointed out barriers related to delayed access to innovative medications, affecting the availability of services for cancer patients. Delays in radiation therapy treatment appointments were also noted, further contributing to patient challenges. The shortage of professional personnel, including nurses and caretakers, as well as diagnostic equipment was identified as an additional factor leading to delays in patient care. This staffing issue was noted by CSOs and national authorities.

Rehabilitation and palliative care insufficiency.

CSOs highlighted the insufficient focus on rehabilitation as an essential part of cancer treatments. The limited emphasis on rehabilitation adversely affected the holistic care of cancer patients aimed at improving the overall quality-of-life of cancer patients and survivors. The limited resources for palliative care were also highlighted as a challenge.

Lack of clinical governance and oversight.

National authorities expressed concerns about the absence of robust clinical governance and oversight, particularly in the context of innovative medicines and their evaluation and decision-making. This lack of oversight could have an impact on the quality and efficiency of clinical practices. According to the respondents, this is exacerbated by the lack of consensus among clinicians regarding best practices and the impact of private practice criteria on the public healthcare system. This divergence in clinical decision-making could lead to inconsistencies in patient care.

Overcoming these challenges is vital to enhance cancer care and outcomes in EU Member States. In the box below we present some good practices presented by the various stakeholders to address the clinical barriers described above.

Box 6. Self-reported good practices addressing clinical barriers

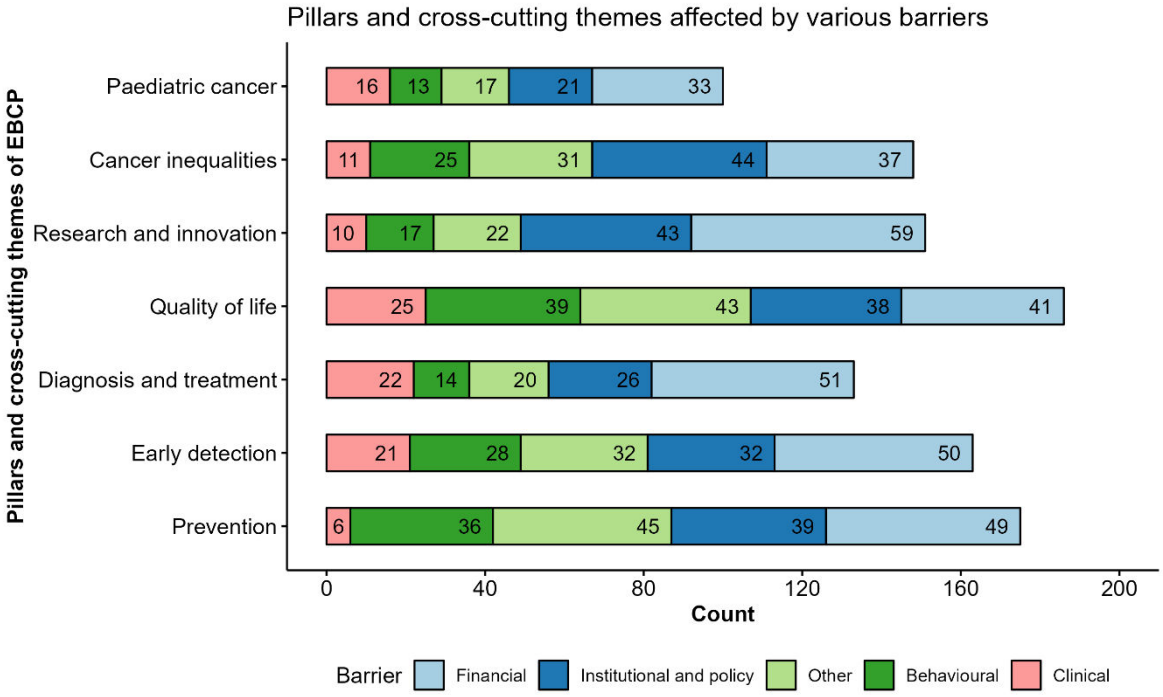
- Implementing mandatory data collection to assess cancer prevention, access, and inequalities, which helps identify coverage, accessibility, and affordability gaps (BE, FR).
- Establishing interprofessional and multidisciplinary oncological councils to improve cancer treatment planning and the provision of appropriate care (DE, FR, GR, RO, SI).
- Implementing continuous education and training for medical, paramedical, and managerial personnel to keep healthcare and social institutions up to date (BE, FR, LU, MT, PT).
- Installation of clinical guidelines to standardise cancer care and treatment practices in collaboration with scientific societies and specialty committees (EE, FR, IS, LT, PT, SK, ES).
- Establishing better networking between hospitals, oncology centres, and research laboratories through research funding and collaboration (DE).

Source: Authors' elaboration based on study survey with national stakeholders.

2.5.7. Pillars and cross cutting themes affected by the various barriers

The various barriers presented above impact differentially on the various pillars and cross-cutting themes of the EBCP. In the survey, we asked national stakeholders to identify which pillars and cross-cutting themes are impacted by which type of barriers. As seen in the figure below, according to the survey responses, it appears that behavioural barriers primarily impact the quality of life and prevention pillars of the EBCP, while they have a limited impact on the diagnosis and treatment pillar and cross-cutting theme of the EBCP. Clinical barriers on the other hand, primarily affect the quality-of-life, diagnosis and treatment, and early detection pillars of the EBCP, while having a limited impact on the prevention pillar.

Figure 8. Pillars and cross-cutting themes affected by various barriers



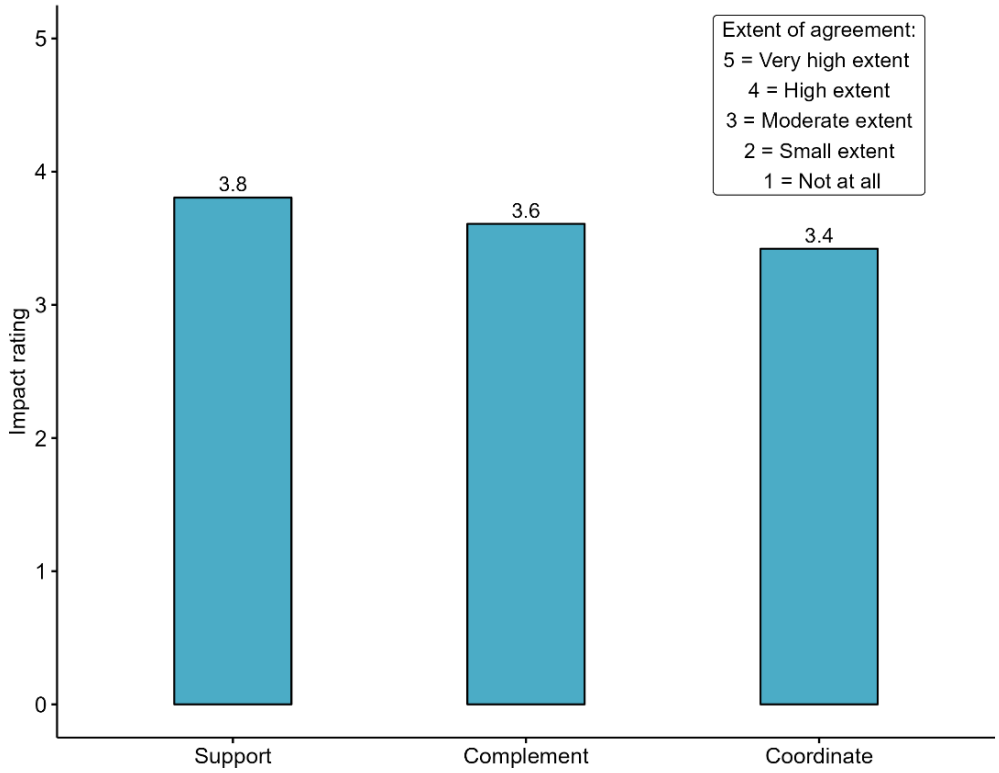
Source: Authors' elaboration based on study survey with national stakeholders (number of occurrences from the survey responses of each of the barriers (behavioural, clinical, financial, institutional and policy, and other barriers) across the four pillars and three cross-cutting themes of the EBCP).

According to the survey responses, financial and institutional barriers are more often seen as a barrier affecting all pillars and cross-cutting themes of the EBCP compared to clinical and behavioural barriers. According to the survey responses, financial barriers are reported most frequently to impact the cross-cutting theme of research and innovation and the diagnosis and treatment, early detection, and prevention pillars of the EBCP, while policy and institutional barriers are reported most frequently to impact the cross-cutting theme of cancer inequalities and research and innovation, as well as the prevention and quality of life pillars of the EBCP.

2.5.8. Further European Commission support

Surveyed stakeholders across the different national stakeholder groups were asked to rate the extent to which they believe the European Commission can further support, coordinate, and complement national actions against cancer. In the figure below, we present the average rating of each of the roles the European Commission can assume according to all the survey respondents across all four stakeholder categories.

Figure 9. Role of European Commission



Source: Authors' elaboration based on study survey with national stakeholders (average extent of agreement across all survey respondents on the role of the European Commission to assist in the development of national actions against cancer).

The survey responses provided insights into what further objectives and actions the European Commission could undertake to support, coordinate, and complement Member States' actions against cancer. These responses can be grouped into the themes described in the following section.

Coordination and monitoring

Multiple stakeholders, including CSOs and national authorities, emphasised the importance of coordinating and monitoring efforts effectively. They called for the European Commission to set up a systematic monitoring framework, promote best practice sharing, and develop implementation guidelines with timelines and costs. The European Commission is working on developing a monitoring framework (see Section 4 of this report) to track the progress and impact of the EBCP, while also promoting best practice sharing through the Sub-group on Cancer, launched under the Expert Group on Public Health. With regards to implementation guidelines, timelines, and costs, the European Commission has already published an Implementation Roadmap of EBCP which lists the 42 actions (including 10 Flagship initiatives) revolving around the four pillars and three cross-cutting themes of the EBCP. For each of these actions, the EBCP Implementation roadmap[261] defines a

[261] European Commission (2024). Europe's Beating Cancer Plan: Implementation Roadmap. Available at: Link

set of milestones based on a five-year time window. This roadmap can act as a guidance to Member States and assist them in aligning with the various initiatives at a national level. This would help ensure that Member States are held accountable for the progress in implementing the EBCP.

Research and innovation

Healthcare professionals stressed the need for higher support for academic research to balance the clinical research led by the industry. They also suggested that the European Commission should continue offering research and implementation funding through programmes like European Research Council (ERC), EU4health, and Horizon Europe. CSOs called for more long-term commitments, especially in cancer prevention, to provide sustained financial support. They stressed that several funding schemes planned for short-term periods may not be sufficient to implement findings effectively.

Regulatory frameworks and policies

Various stakeholders, including CSOs and industry associations, highlighted the importance of regulatory frameworks and policies to address the various challenges such as evaluating scientific studies, and addressing data gaps. Additionally, they recommended that the Commission require local governments to provide details about the implementation of national cancer plans and raise awareness among politicians about the importance of cancer programmes. To address the data gaps, the European Commission published a proposal for the European Health Data Space Regulation in 2022, for which the European Parliament and the Council reached a political agreement in spring 2024[262], to empower individuals to take control of their health data and facilitate the exchange of data for the delivery of healthcare across the EU, to foster a genuine single market for electronic health record systems, and to provide a consistent, trustworthy, and efficient system for reusing health data for research, innovation, policy-making, and regulatory activities.

Supporting smaller Member States

Some stakeholders, particularly national authorities, highlighted the differences in the absorption capacity across Member States, with smaller states facing challenges. They recommended that the Commission assess and adapt EU initiatives to better suit the needs of smaller Member States.

[262] European Commission (2024). Commission welcomes European Parliament's adoption of the European Health Data Space and regulation on substances of human origin. Available at: Link

Standardisation and quality of care

Healthcare professionals and national authorities highlighted the need for EU-wide standardisation of cancer care, treatment protocols, and the establishment of National Comprehensive Cancer Centres. Standardisation, including tumour specific requirements based on evidence-based guidelines, would help ensure quality care across Member States. Stakeholders expressed the usefulness of the European Commission to provide access to information, guidelines and quality assurance schemes, including good practice examples, which can help Member States in their cancer control efforts. Additionally, they suggested gathering and sharing real-world data and metrics to benchmark results among EU states. The European Commission has already published a European quality assurance scheme which defines a common set of both quality and safety requirements for breast cancer services wishing to improve the quality of care offered to women[263]. The scheme is designed to be implemented on a voluntary basis and covers all the relevant care processes from screening until end-of-life care. Regarding the establishment of National Comprehensive Cancer Centres, in 2022 the European Commission launched a Joint Action for the creation of 'National Comprehensive Cancer Infrastructures' and an EU network (JA CraNE)[264], which is expected to end in the third quarter of 2024, with a follow-up Joint Action starting in the third quarter of 204. The EU network is expected to be fully operational in 2025.

2.6. Adequacy of the EBCP

The aim of this section is to assess the adequacy of the Europe's Beating Cancer Plan and evaluate, in particular, whether the Plan is still relevant in light of the aforementioned developments, analyse which objectives are suggested to be strengthened and identify which new actions are recommended. The section is based on the analysis of recent developments and challenges (Section 2.3), the gaps in national policies (Section 2.4) and barriers experienced (Section 2.4.2), in addition to insight from interviews with European and international stakeholders (Annex 3), the focus groups with the panel of experts (Annex 8), and literature review.

2.6.1. Relevance of the EBCP in light of recent developments and of the evolution of the disease in Europe

The **impact of cancer** on European healthcare systems is expected to **increase**, with the number of people diagnosed with cancer across Europe having risen by approximately 50% over the past two decades[265]. Based on the latest available data,

[263] European Commission (undated). European quality assurance scheme for breast cancer services. Available at: Link

[264] CraNE (undated). European Network of Comprehensive Cancer Centres. Available at: Link

[265] Hofmarcher et al. (2019). Comparator Report on Cancer in Europe 2019. Available at: Link

cancer is responsible for one in every four deaths in Europe, making it the second leading cause of death and disability after cardiovascular disease[266]. Alarmingly, given an **ageing and growing European population**, this trend is set to continue. The number of cancer cases is projected to increase to an additional 775,000 diagnoses by 2040[267]. Particularly, by 2040, the 65+ age group is estimated to increase by 34%. Given that cancer risk is higher in this age group, the European cancer burden is expected to increase by about 38% in terms of new cancer cases and 44% of cancer deaths[268]. Given the nonmodifiable nature of such risk factor, demography alone is expected to account for a major increase in the number of new cancer cases by 2040[269]. Nevertheless, while it is true that more people are being diagnosed with cancer, improvements in services and treatments have led to better outcomes, as also shown by the fact that the number of cancer deaths has increased at a much slower pace (20%) than that of cancer cases (50%)[270].

Thanks to scientific progress and technological developments, **survival is improving**, giving many people the chance to live longer with better quality of life[271]. As the number of cancer survivors will also continue to increase, healthcare systems worldwide are expected to experience the strain of providing follow-up care that is both effective and economically viable to a growing number of patients[272].

Today, effective prevention and early detection schemes are successfully reducing the burden of cancer on individuals and on healthcare settings. Policies such as tackling environmental and occupational exposures to known carcinogens, actions to boost physical activity, as well as policies enabling access to healthy diets and limiting access to alcohol and tobacco are bearing fruit[273]. As reported in Section 2.3.1, technological developments and innovations in research, early detection and treatment have dramatically changed the way the cancer continuum is dealt with by the scientific and healthcare community. Thus, in the coming years, everything points to a constant continuation of these trends, if not to an acceleration, with evident improvements in mortality rates and quality of life for survivors[274].

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[266] Hofmarcher et al. (2019). Comparator Report on Cancer in Europe 2019. Available at: Link

[267] Ibid.

[268] European Commission – Joint Research Centre (2023). Cancer in 2040: Estimates for an ageing Europe. Available at: Link

[269] Ibid.

[270] Hofmarcher et al. (2019). Comparator Report on Cancer in Europe 2019. Available at: Link

[271] Hofmarcher et al. (2019). Comparator Report on Cancer in Europe 2019. Available at: Link

[272] Høeg et al. (2019). Follow-up strategies following completion of primary cancer treatment in adult cancer survivors. Available at: Link

[273] European Commission – Joint Research Centre (2023). Cancer in 2040: Estimates for an ageing Europe. Available at: Link

[274] Targeted Interviews on the mapping and evaluation of the implementation of Europe's Beating Cancer Plan, July-September 2023.

Keeping in mind these trends, the EBCP has been warmly received by all the stakeholders in the cancer community in Europe, e.g. research centres, national health authorities (national ministries, agencies, or cancer institutes), non-governmental organisations (NGOs), medical associations, health technology industries and pharmaceutical companies as well as patient associations[275]. In particular, throughout the interviews carried out for this study, it clearly emerged how all European stakeholders highly appreciated how the EBCP posed very **ambitious goals and objectives**, as well as how it is comprehensive in considering all aspects related to the cancer continuum – from prevention to post-treatment and survival - and adopts a quite innovative approach. In this sense, all stakeholders interviewed throughout the study also agreed that **the framework remains valid in light of the recent developments** in technology, policy and society, that all flagship initiatives are still relevant and that the objectives are well suited to face the disease throughout the whole cancer journey. Indeed, the findings of Section 2.3 show that the concerning trends in the prevalence of harmful lifestyle habits continue to require action at EU level, while the technology and policy developments contribute to achieving the objectives of the EBCP, and that relevant lessons can be learnt from the pandemic.

In this sense, most of the stakeholders interviewed believe that all the EBCP objectives still **remain highly relevant**. Similarly, they believe it is still too early to indicate whether some actions and objectives are no longer needed given that the Plan has not yet reached a level of full maturity such that something could be considered as obsolete. They also appreciated how the open nature of the document allows to address the issues included in the Plan depending on the situation of each country.

Similarly, a public health NGO noted that the objectives and actions outlined in the EBCP have taken into account some of the new developments relevant to fighting cancer. The EBCP addresses prevention efforts, early detection, treatment, and care, which all remain crucial aspects of cancer control.

National authorities also agreed with the relevance of the EBCP in light of recent developments. Namely, in 2022 the EBCP was endorsed by the French Presidency of the Council of the European Union in a political declaration[276] made at the first edition of the European Cancer Conference, which represented a strong commitment from the Trio Presidency of the Council (i.e. France, Sweden and Czechia) and reasserted the political and scientific prioritisation of the fight against cancer. The document also called for the implementation of 32 concrete new initiatives around five flagship themes (paediatric cancers, cancers with poor diagnosis, cancer prevention, cancer and employment, and international cooperation), which each Member State had to promote to the Presidency of the Council of the European Union. Similarly, the Czech presidency put spotlight on

[275] Targeted Interviews on the mapping and evaluation of the implementation of Europe's Beating Cancer Plan, July-September 2023.

[276] République Française & Institut National du Cancer (2022). Political Declaration and list of actions against cancer recommended by a panel of European stakeholders. Available at: Link

oncology, with a Call to Action which highlighted the establishment of Comprehensive Cancer Infrastructures, the future of cancer registries and European Health Data Space (EHDS) as well as new proposed cancer screening recommendations[277].

2.6.2. Objectives to be strengthened and prioritised

One of the main objectives to be strengthened and prioritised as suggested by the stakeholders is the **reduction of inequalities**, in spite of the Commission's efforts to address the issue, e.g. through the establishment of the European Cancer Inequalities Registry. The majority of stakeholders consulted noted how one of the most considerable challenges is currently represented by the inequalities that persist in many aspects of cancer health systems and services. Another aspect of inequalities which might be further considered is constituted by ageing, as this is a major determinant in access to innovation, clinical trials, diagnosis and treatment. Our analysis of national cancer policies and measures in Section 2.4.5.2 showed that there are significant inequalities within regions in Member States, especially for those with decentralised healthcare competences. Some countries have implemented initiatives aimed to at-risk population, but only few national cancer plans have dedicated objectives and actions to reduce health inequalities. Overall, inequalities were depicted by consulted stakeholders as an increasing problem which requires immediate actions from Member States. It has been argued that, in spite of the valuable objectives of the EBCP, the responsibility for action ultimately lies in national governments, which cannot be held accountable in case they do not act.

In order to tackle not only disparities across countries but also inequalities between different socio-economic status, one public health NGO noted how the **commercial determinants of health** (i.e. the private sector activities that affect people's health, like tobacco and alcohol consumption)[278] are key factors in prevention and treatment. In light of this, the stakeholder argued that the EBCP should reflect such aspect and focus on creating health-conducive environments, where healthy choices are default and unhealthy behaviours are actively discouraged. This would also address the problem of having people from lower socio-economic backgrounds with higher smoking and smoking-related disease rates and higher cancer rates as a consequence. Moreover, considering the abovementioned problems of increasing inequalities, most stakeholders consulted claimed that citizens' involvement need to be further increased with **additional emphasis among socially vulnerable groups** and their health literacy improved in order to address inequalities at their roots. Based on this, it was suggested that primary cancer prevention programmes might be tailored to the particular needs of the target populations, considering socio-economic, cultural and geographical conditions. Moreover, **public health should focus on overcoming the damaging impact of fake news** on matters such as vaccination and cancer causation. However, our analysis in Section 2.3.3 shows that health literacy is not sufficient when socio-economic determinants of health

[277] Czech Ministry of Health (2022). Call to action from the Expert Conference on oncology "Modern Cancer Control: Saving Lives through Smart Solutions". Available at: Link

[278] WHO (2023). Commercial determinants of health. Available at: Link

come to play, and that the **affordability** of healthy food and lifestyle is also an important aspect to take into account. As highlighted by national CSOs in the survey, pricing and taxation policies can have an impact on cancer prevention. However, the costs of healthy food and sustainable diets currently increase while pricing and taxation policies on tobacco and alcohol products were argued to remain largely unchanged.

Based on the persisting prevalence of harmful lifestyle habits and environmental risks highlighted in Section 2.3.3 and according to the majority of stakeholders interviewed, it is also suggested that the objectives and actions of the EBCP related to **prevention should be strengthened**. Indeed, progress in the prevention pillar is still very limited, in spite of being already included in the EBCP and most Member States' policies and despite the actions that have already been implemented by the Commission to improve health literacy (e.g. inclusion of relevant projects on health literacy in the area of cancer in the 2024 EU4Health Work programme[279]). For instance, it was argued that not much progress was done in addressing lifestyle factors and the reduction of tobacco and alcohol consumption, with the industry trying to delay actions. Relevant activities on evidence gathering are ongoing, and the tobacco and alcohol industries are critical towards further actions. As evidenced in our analysis of recent developments (see Section 2.3.3) and of national policies (see Section 2.4.1), the level of strictness of national tobacco control policies varies, while the use of emerging products such as e-cigarettes and heated tobacco products (HTPs) is raising. In addition, while data show a lack of awareness of consumers about the link between alcohol and cancer, only Ireland is introducing health warning labelling on alcoholic beverages and a few other countries have non-binding guidelines on health warning labelling. Moreover, despite consistent increases in the prevalence of overweight and obesity in the EU, important initiatives such as the announced proposal for a harmonised mandatory front-of-pack nutrition labelling scheme have not yet been presented.

Thus, while the EBCP has made important strides in areas like research, treatment and secondary prevention, it could benefit from implementing the existing strategies to tackle the root causes of cancer, including modifiable risk factors like unhealthy behaviours and exposures, and other elements of the primordial prevention. Several national stakeholders surveyed highlighted the need for more educational measures aimed at sensitising younger generations about healthy lifestyle choices. In this context, it also emerged that more emphasis should be put on ensuring continuous funding to academia, institutions and NGOs to conduct prevention actions[280]. Especially, this will be challenging for NGOs, given their key role of creating synergies in the EU. Moreover, in 2025, if confirmed, operating grants will be abolished, hence posing the activities of NGOs at risk.

According to our analysis of recent developments and of national policies (see Sections 2.3.3 and 2.4.3), the objectives of delivering **high-quality care** and ensuring a high-quality health workforce are hindered by the shortage of oncology

[279] European Commission (2023). Annex to the Commission Implementing Decision on the financing of the Programme for the Union's actions in the field of health ('EU4Health Programme') and the adoption of the work programme for 2024. Available at: Link

[280] Study First Focus Group on Task 1. Future Proofing Analysis, 5th October 2023.

specialists and the lack of multidisciplinary teams. In addition, very few national provisions were identified to facilitate access to oncological medicines. According to the survey with national stakeholders, the lack of healthcare professionals, cancer infrastructures and medicines is linked to financial barriers such as lack of funding and resources, and leads to delay in patient care. Furthermore, our assessment of national policies shows that the **quality of life** of cancer patients, survivors and carers is the objective less commonly addressed in the national cancer plans and measures.

Another topic which might receive further improvement according to the stakeholders consulted concerns the **integration between platforms for data and research** (e.g. improving the creation of the European Cancer Patient Digital Centre and the SMARTcare App). Our analysis of national policies (see Section 2.4.5.1) shows important national differences in terms of the number of clinical trials, cancer-related research projects and medical research institutes, with small countries having a systematic disadvantage with relatively small cancer centres with limited workforce and patients to conduct clinical trials.

Stakeholders consulted also mentioned that a **comprehensive data coverage coming from national cancer registries is needed** to allow evidence-based informed discussions, problem identification and actions. Based on our analysis of national cancer measures (see Section 2.4.5.1), all Member States except one have established cancer registries. The availability of population-based **cancer registry data** is of utmost importance in the development of modern oncology. Major contributions consist in accurately measuring cancer burden (incidence, survival and prevalence, beside mortality), identifying and quantifying risk factors (case control and cohort studies that, in the last two decades, included gene variant assessment) and evaluating outcomes of treatments and preventive interventions, including mass screening. Population-based cancer registries represent key enabling elements to help define cancer inequalities, evaluate the effect of cancer prevention research strategies, and determine the effectiveness of national healthcare systems in providing the best care for patients with cancer, regardless of their socioeconomic status[281]. Cancer registration coverage of European populations progressed slowly since 1940 and was at almost 50% in 2018[282]. Cancer registries provide a comprehensive picture of Europe's cancer burden, but problems in accessing the data can make it difficult for researchers to produce reliable data-driven analyses in a timely manner. Indeed, one of the priorities should be to include more information on co-morbidities and competing risks: in this sense, legislators should be more aware about the critical need to interpret patterns of care and new trends in the cancer patient population, since this is still quite patchy across different EU countries[283].

[281] Lawler et al. (2023). European Groundshot – Addressing Europe's cancer research challenges: A Lancet Oncology Commission. Available at: Link

[282] Zanetti et al. (2018). To accelerate cancer prevention in Europe: Challenges for cancer registries. Available at: Link

[283] Study First Focus Group on Task 1. Future Proofing Analysis, 5th October 2023.

Similarly, **real-world data** are needed equally from cured patients and patients with advanced disease[284]. Several national stakeholders surveyed (especially health professionals and CSOs) reported a lack of adequate data and databases for screening programmes and patient information, partly due to privacy conflicts, hindering research and policy planning. Existing real-world data archives, such as the AIFA registries in Italy[285] or Open Comparisons in Sweden[286] constitute the basis for an integrated pan-European research network. Importantly, the European Medicines Agency (EMA) and the European Medicines Regulatory Network have recently established the coordination centre Darwin EU that will work to build a data network for high-quality real-world data on the safety and effectiveness of medicines. Darwin EU is expected to enter full operation by 2024[287]. Likewise, the European Commission published the proposal for a European Health Data Space (EHDS) regulation in May 2022, which aims to enable citizens with access and control over their health data, wherever they are in Europe, in a common European format and the creation of a legal framework to regulate data usage for research, regulatory or policy-making purposes[288]. The Council and the European Parliament reached a political agreement in Spring 2024 and the regulation should enter into force October 2024, 20 days after its publication in the Official Journal of the EU[289]. Several projects have started working on the implementation of the EHDS and the two infrastructures that will support it, namely MyHealth@EU and HealthData@EU. Such projects are the HealthData@EU pilot project[290] and the Joint Actions xt-EHR, TEHDAS and TEHDAS 2. Member States have also received direct grants to prepare for the implementation of the EHDS.

Many stakeholders consulted mentioned the **collaboration, coordination and synergies between research, academia and the industry**, and the ability to effectively convert research discovery into therapeutic innovation beneficial for patients as an area for improvement. Such possibility is indeed often compromised by regulatory, implementation and scale-up challenges[291]. In this sense, more support is required for both academic-led clinical trials and real-world evidence studies. The insufficient support to translating research into innovation might curtail

[284] Baumann et al. (2023), Engaging European society at the forefront of cancer research and care. How discussions at the 5th Gago Conference on European Science policy led to the Heidelberg Manifesto. Available at: Link

[285] Xoxi et al. (2021). The evolution of AIFA registries to support managed entry agreements for orphan medicinal products in Italy. Available at: Link

[286] Trygged (2017). Open comparisons of social services in Sweden – Why, how, and for what? Available at: Link

[287] European Medicines Agency (undated). Data Analysis and Real World Interrogation Network (DARWIN EU). Available at: Link

[288] European Commission (undated). European Health Data Space. Available at: Link

[289] European Commission (2024). Commission welcomes European Parliament's adoption of the European Health Data Space and regulation on substances of human origin. Available at: Link

[290] EHDS (2022). HealthData@EU Pilot. Available at: Link

[291] Aggarwal et al. (2022). What really matters for cancer care – health systems strengthening or technological innovation? Available at: Link

the ability to deliver new diagnostics and therapeutics that can be sustainably and equitably embedded across European health systems[292]. Similar concerns were expressed by the interviewees, who highlighted specifically how, in spite of impressive results in research, health systems are weak in order to guarantee the effective translation of research into practice. Based on this, it has been argued that the EBCP should be a catalyser for cross-sector partnerships, including the stimulation of efforts across research, academia, policy and the industry in a broader sense.

Despite progress in some areas, most EU and national stakeholders consulted agree that there is a need for greater emphasis on implementation, monitoring and evaluation to ensure effective execution of the proposed actions of the EBCP. As a matter of fact, the analysis of national policies (see Section 2.4) showed that half of the Member States have not updated their national cancer plan yet since the introduction of the EBCP, and that a significant number of European countries do not have a monitoring of evaluation system in place to assess the implementation of their national cancer plans.

It has been argued that, while plans like the EBCP usually set the agenda for policy adoption and projects design, what is fundamental in the end is the practical **implementation** of what was initially put on paper. Hence, the fact that the Plan relies on the single Member States' will and organisation for the actual implementation of the actions included therein might be considered as a limit. Thus, it becomes vital for the European Commission to deliver on its proposals and ensure active participation and commitment from national governments. To overcome these obstacles, although punitive actions or fines do not constitute any valuable options, some interviewees stressed that Member States should at least be further exhorted to implement the actions and promote the objectives included in the Plan. However, several interviewed stakeholders and experts in the first focus group highlighted the high number of initiatives under the EBCP and the insufficient number of staff and stakeholders involved in Member States, in addition to the differences in capacity between large and small Member States, hindering the implementation of the Plan. The survey with national stakeholders also highlighted the insufficient funding of the national cancer plans and measures in some countries, hindering their implementation, in particular the limited funding in the areas of prevention, early detection, quality of life, research and the reduction of inequalities (see Section 2.5.1). In addition, in some countries national stakeholders highlighted the absence of political will or disagreements between political parties regarding the national cancer plan, affecting the allocation of resources and the implementation of national policies. In this context, good practices highlighted by national stakeholders included the creation of multi-stakeholder platforms and mirror groups to identify needs and priorities for national cancer plans, and the implementation of cancer policies by a dedicated national cancer institute.

The impact of the EBCP on some national policies is not always tangible, specifically in those countries which lag behind in terms of capacity. To address the identified gaps and ongoing challenges, in particular, it is suggested that the EBCP should need a commitment and guidance of implementation and monitoring from Member

[292] Ibid.

States. To this end, **implementation and monitoring** of the Plan are ensured through the Implementation Group, working closely with the Sub-group on Cancer of the Expert Group in Public Health (the previous 'Steering Group on Health Promotion, Disease Prevention and the Management of Non-Communicable Diseases'). The Sub-group advises the Commission on potential actions related to the implementation of the EBCP, informs on the national and EU level implementation of cancer-related actions, reports on problems related to the implementation, as well as delivers recommendations to the Commission on ways to support Member States in the implementation of cancer actions and on concrete actions to improve the uptake of best practices, guidelines and research and innovation results on cancer, as needed. The members of the Sub-group include the nominated representatives from Member States Ministries of Health and Research[293].

Monitoring and evaluation of the Plan's progress are indeed essential to ensure that the proposed actions are effectively carried out and yielding the desired outcomes. The Commission publishes the EBCP Implementation Roadmap[294] to provide information on the implementation of the actions of the EBCP with progress indicators.

Likewise, as far as funding is concerned, many stakeholders stressed that some forms of monitoring are further needed to see where the money goes for each objective and action in the hands of governments in light of some of the financial limitations mentioned before. Hence, it might be beneficial for the whole cancer community to have visibility on how funding is used in order to evaluate the effectiveness of the usage of such funds and whether they are leading to reach the goals of the Plan. In this regard, the European Commission portal on financial transparency provides data on the budgets allocated across programmes, specific projects and beneficiaries[295]. Moreover, in spite of the EBCP Implementation Roadmap and of a dedicated website showcasing all cancer related projects funded under the EU4Health Programme[296], it was noted how, for small organisations in particular, keeping track of all initiatives, projects and funding opportunities might be quite challenging in some contexts.

Finally, as emerged in the first focus group, although the EBCP was an extraordinary result of combined actions among EU political will, healthcare institutions, academia, research centres, industry stakeholders, civil society and a number of other actors, it might be that the situation has come now to an impasse for a number of reasons, with no longer the same political energy and a sense of uncertainty about the future of the Plan due to the 2024 European Parliament elections. In particular, it is

[293] European Commission (2023). Steering Group on Health Promotion, Disease Prevention and Management of Non-Communicable Diseases. Mandate for a temporary sub-group on cancer. Available at: Link

[294] European Commission (2024). Europe's Beating Cancer Plan: Implementation Roadmap. Available at: Link

[295] European Commission, Financial Transparency System Data from 2014 to 2022. Available at: Link

[296] European Commission (undated). Europe's Beating Cancer Plan. Delivering on the EU Cancer Plan through dozens of EU4Health funded projects. Available at: Link

generally felt that some policies and actions are now proceeding slowly, in particular prevention policies such as those on alcohol consumption. Strictly related to this, the presence of a powerful private sector lobby against new prevention policies for tobacco and alcohol consumption, just to mention a few, cannot be ignored and has the potential to hinder the design of new actions and objectives. In this sense, the industry has been widely recognised by experts of the first focus group as a major roadblock on what might be further done in the field of prevention. Moreover, some stakeholders consulted stressed that, with the 2024 European elections and the formation of a new Parliament and Commission, it should be ensured that the next legislation will build upon what has been obtained so far and will show the **political will** to continue on this path.

2.6.3. New actions needed

At the moment, the vast majority of stakeholders consulted throughout the study do not believe that additional specific actions need to be added in the Plan, as the primary objective should be on implementing the already existing ones, rather than adding new objectives. A representative from European institutions stressed that Member States should be better assisted to implement such actions in light of potential capacity building problems. Nevertheless, while most stakeholders believe that it is still too early to identify the existing gaps in the implementation of the Plan, a number of areas which are less covered in the Plan or national measures, and hence might receive some improvement or further actions, have been mentioned throughout the interviews.

One of these areas is **paediatric cancers**, which is a specific objective of the EBCP but is often covered under the umbrella of other priority areas in national cancer plans (see Section 2.4.5.3). The survey with national stakeholders highlighted the lack of investment for research on paediatric cancers and the report of the European Parliament BECA[297] also called for more research into paediatric cancers. Under the French Presidency of the Council, a panel of European experts made recommendations of various actions on paediatric cancers including accelerating clinical research, reinforcing the follow up of young survivors, developing and consolidating the sharing of data at EU level and reinforce the current European structures (paediatric cancer reference network, ensuring paediatric cancers are a priority in national cancer plans, coordinate paediatric infrastructures with the European network of comprehensive cancer centres)[298].

Similarly, although **quality of life** of cancer patients and survivors is an objective of the Plan, it is one of the areas least covered in the national cancer plans according to our analysis (see Section 2.4.4). Some national stakeholders surveyed highlighted the overemphasis placed on medical aspects over psychosocial aspects and the lack of multidisciplinary guidance in care, neglecting the holistic needs of patients and survivors.

[297] European Parliament (2022). Strengthening Europe in the fight against cancer. Available at: Link

[298] République Française & Institut National du Cancer (2022). Political Declaration and list of actions against cancer recommended by a panel of European stakeholders. Available at: Link

The **shortage of healthcare workforce** and more specifically of oncologists (see Sections 2.3.3 and 2.5.6), further exacerbated during the pandemic, should also be tackled with further actions, to achieve the objective of delivering high quality care and ensuring a high quality healthcare workforce.

National stakeholders reported several barriers to research and development, including bureaucratic hurdles and delays in the implementation of innovative techniques and medication funding, which hinder the advancement of cancer treatment. The Lancet Oncology European Groundshot Commission published 12 recommendations to reimagine a **cancer research** agenda for Europe, emphasising the need for data-driven cancer research strategies, and to broaden the scope of biopharmaceutical research in Europe to encompass prevention, early detection, treatment modalities such as radiotherapy and surgery, and quality of life of survivors[299].

Among the areas not covered in the Plan, the specific needs of **elderly patients** for treatment, survival and palliative care were also highlighted as a point to take into account[300], considering that cancer is more prevalent among people aged 65+ and that this group may increase with the ageing of the population. In this regard, a good practice is the development of coordination units of oncologic geriatrics in France[301].

In spite of a number of initiatives addressing **rare cancers** (e.g. the European Platform on Rare Disease Registration provided by the JRC[302], EU4Health funded actions), stakeholders argued that this area requires greater focus, with the European Parliament BECA report calling for more research into rare cancers, with additional funding for the European Reference Networks and their integration into national health systems[303].

To **address the financial barriers** affecting the achievement of the different objectives of the Plan (see Section 2.5.1), several options could be explored, such as better cost-benefit analysis and monitoring of budget for cancer actions, as well as leveraging EU funds and additional sources of funding such as public-private partnerships, private donations, involving charities, or using financial incentives to encourage cancer prevention measures.

[299] Lawler et al. (2023). European Groundshot – Addressing Europe's cancer research challenges: A Lancet Oncology Commission. Available at: Link

[300] Study Second Focus Group on Task 2. Country Analysis, 12th October 2023.

[301] Institut National du Cancer. Les unités de coordination et antennes d'oncogériatrie. Available at: Link

[302] European Commission (undated). European Platform on Rare Disease Registration (EU RD Platform). Available at: Link

[303] European Parliament (2022). Strengthening Europe in the fight against cancer. Available at: Link

2.6.4. How to strengthen the EBCP to react to a possible new pandemic

As mentioned in section 2.3.4, the lack of knowledge on the risks of the COVID-19 virus and the overall lack of readiness during the pandemic caused major delays in prevention and treatment of cancer patients. However, despite the backlog and delays caused to cancer control, according to most stakeholders consulted throughout the study, the COVID-19 pandemic clearly showed that, when certain issues become alarming and urgent, a well-coordinated action can lead to effective results. In this context, although the EBCP was designed during the COVID-19 crisis, there are **multiple lessons learnt from the pandemic** which might be further integrated in the EBCP in order to react to a new possible emergency situation.

The EBCP outlined substantive actions to mitigate the impact of the COVID-19 pandemic on cancer care and brought structural improvements for a more sustainable cancer pathway. The Plan included several measures to defend cancer care against the ravages of the pandemic and drew on lessons learnt, including the importance of additional **financial investments** and high-performance computing (HPC) to test existing molecules and new drug combinations more rapidly. As mentioned by many stakeholders interviewed, another concrete action of the Plan has been to develop contingency planning to respond to similar events in the future. This can be done, for example, by further supporting research, innovation and deployment actions with EU funds, investing in specialist training for oncology nurses, radiologists and oncology surgeons, using digital health tools to support primary healthcare professionals in their tasks, as well as developing sustainable research structures within Europe that can rapidly evolve and adapt to new challenges. A key aspect of these plans, as highlighted by many stakeholders consulted, is **workforce preparedness**, as the effects of a fragile healthcare workforce clearly emerged during the pandemic. In this sense, having an adequate and resilient healthcare workforce is crucial for maintaining cancer care in times of crisis.

Moreover, most stakeholders consulted agree that healthcare professionals, and the cancer community in particular, should leverage on what has been learnt on the **use of data** to monitor indirect unexpected changes caused by the pandemic and translate this to the management of cancer.

Similarly, according to most stakeholders consulted, **telemedicine and remote monitoring** in health and care systems should not only be maintained in the cancer control continuum, but even strengthened in order to ensure that cancer treatment and care is not suspended in case a new pandemic occur.

Another main lesson learnt concerns the creation of **cancer wards** which are separated from other parts of the hospital. Essentially, the parts of the hospitals devoted to infectious diseases should always be kept separated from other wards. Many stakeholders consulted stressed that patients with conditions that make them

more vulnerable to viruses, such as cancer patients, should be especially protected in separated areas, as it happened during the pandemic. Also, implementing evidence-based and relatively cheap ventilation and masking policies in hospitals has helped reduce hospital acquired COVID-19 infections that then had a knock-on impact on the ability of hospitals to provide cancer and other treatments.

In conclusion, all stakeholders consulted agreed on the fact that the EBCP needs to carefully take into account the lessons learned from the COVID-19 pandemic and strengthen its preparedness for future health crises. In that case, the effort of Member States to cooperate or the joint procurement of vaccines has shown that political willingness plays a pivotal role in beating a disease, COVID-19 or cancer alike. Likewise, healthcare professionals, scientists and researchers will need to be trusted in spite of the rise of anti-vaccines movements and conspiracy theories. By drawing on these lessons, the EBCP will be capable to better react to a possible new pandemic and ensure continued progress in cancer prevention, detection, care, and the well-being of patients and survivors.

3. Evaluation of progress for cancer-related projects under the EU4Health Programme

This section presents a comparative analysis of the application process and implementation of the EU4Health programme for cancer-related projects and actions, through four case studies on projects and actions funded under the EU4Health Programme in the field of cancer for each of the four pillars of the EBCP: prevention, early detection, diagnosis and treatment, and quality of life. The full case studies are included in Annex 6.

Types of projects in scope

The EU4Health Programme provides EU financial support in the field of health and was established under Regulation (EU) 2021/522[1]. Funding is provided via grants and procurement contracts. Grants, and in particular action grants, can be distinguished in: direct grants to Member States authorities (i.e. Joint Actions and direct grants to Member States other than Joint Actions, which are not included in this analysis); direct grants to international organisations; and action grants from competitive calls (hereafter named project grants for simplicity). These grants are co-funded by the Commission and the awarded entities. The types of funding mechanisms can also be distinguished between those awarded under competitive and non-competitive processes as follows:

1. Non-competitive process:

- **Direct grants to Member States authorities – Joint Actions (JA):** resulting in collaborative actions among Member States and countries associated to the EU4Health Programme. Any Member State interested in participating in a JA can join. Member States nominate the national competent authorities who will participate in the JA; affiliated entities to these competent authorities may be nominated as well. Examples of the objectives of JAs include developing, sharing, refining and/or testing tools, methods and approaches to specific health issues and engaging in capacity building in key areas of interest[304].
- **Direct grants to international organisations:** as specified in Article 13(5) of the Regulation (EU) 2021/522. We did not include these grants in our analysis and in the case studies conducted.

2. Competitive process:

- **Call for proposals – project grants**: grants are provided through a competitive process by issuing an open call for proposals. In a call, each topic

[304] European Commission (2021). Regulation (EU) 2021/552 of the European Parliament and of the Council of 24 March 2021 establishing a Programme for the Union's actions in the field of health ('EU4Health Programme') for the period 2021-20287. Official Journal of the European Union. Available at: Link.

may have specific eligibility criteria for the applicants and for the consortium composition (single applicants may be permitted as well).

- **Call for tenders – procurement contracts:** purchase of services or material through a competitive process as part of a call for tenders. Individual applications are permitted for procurement contracts although this is not commonly the case as the expertise requirements cannot always be fulfilled by a single organisation.

Given the technical specifications and request of expertise in different fields within a single call for proposals or tenders, an application often involves the formation of a consortium with multiple organisations from different MSs. In other words, an eligible proposal usually involves several eligible applicants. In competitive processes, there are often multiple eligible proposals received from which only one is retained (for project grants, more than one proposal may be retained depending on the calls), often involving multiple retained applicants.

Approach

The four case studies conducted involved a detailed analysis of a selection of projects funded under each pillar of the EBCP. The following criteria were taken into consideration when selecting the projects included under each case study:

1. **Funding mechanism:** we selected projects which were funded via project grants, procurement contracts and Joint Actions.
2. **Advanced status of implementation:** to provide an adequate assessment of the potential effectiveness of the projects, we selected the most advanced projects under each pillar of the EBCP in terms of their timeline. To the extent possible we tried to select projects which had been ongoing for at least one year. However, given the recent launch of the EU4Health Programme, for some of the pillars (e.g. pillar II – early detection) the selected projects had been ongoing for less than one year.
3. **Geographical coverage:** the selected projects have a representative geographical distribution in terms of the Member States where participant organisations are established.

The insights gathered from the case studies are based on a review of the number of applications received by HaDEA, desk research on the awarded projects, and interviews with participating organisations and impacted stakeholders as detailed under each case study.

3.1. Overview of participants in Joint Actions

There was a total of four JAs funded under the EU4Health Programme calls related to cancer up to December 2023. There was one JA under Pillar I (JA PERCH - PartnERship to Contrast HPV), none under Pillar II, two under Pillar III (JA CraNE - Network of Comprehensive Cancer Centres; JA JANE - Joint Action on Networks of Expertise), and one under Pillar IV (JA eCAN - Joint Action on strengthening eHealth

including telemedicine and remote monitoring for health care systems for cancer prevention and care) of the EBCP. In the table below we present the countries participating in the relevant JAs.

Table 9. Member State participation in Joint Actions on cancer funded under the EU4Health Programme across the pillars of the EBCP.

	Pillar I	Pillar III		Pillar IV
Country	PERCH	CraNE	JANE	eCAN
Austria		X		X
Belgium	X	X	X	X
Bulgaria		X		
Croatia	X	X	X	
Cyprus		X		X
Czechia	X	X	X	
Denmark				X
Estonia	X	X		
Finland				
France	X	X	X	
Germany	X	X	X	
Greece	X	X	X	X
Hungary	X	X	X	X
Ireland	X	X		X
Italy	X	X	X	X
Latvia		X		
Lithuania	X	X	X	X
Luxembourg		X		
Malta		X	X	X
Netherlands				
Poland	X	X	X	X
Portugal		X	X	X
Romania	X	X	X	
Slovakia	X	X		X
Slovenia	X	X	X	X
Spain	X	X	X	X
Sweden	X	X		
Iceland				
Norway	X	X	X	X

Source: Authors' elaboration.

As evident in the table above, certain Member States are participating in all JAs funded under the EU4Health Programme related to cancer. These include Belgium, Greece, Hungary, Italy, Lithuania, Poland, Slovenia, Spain, and Norway. However, other countries such as Finland, Iceland and the Netherlands are not participating in any JAs, while countries like Denmark, Latvia and Luxembourg are only participating in one of the JAs.

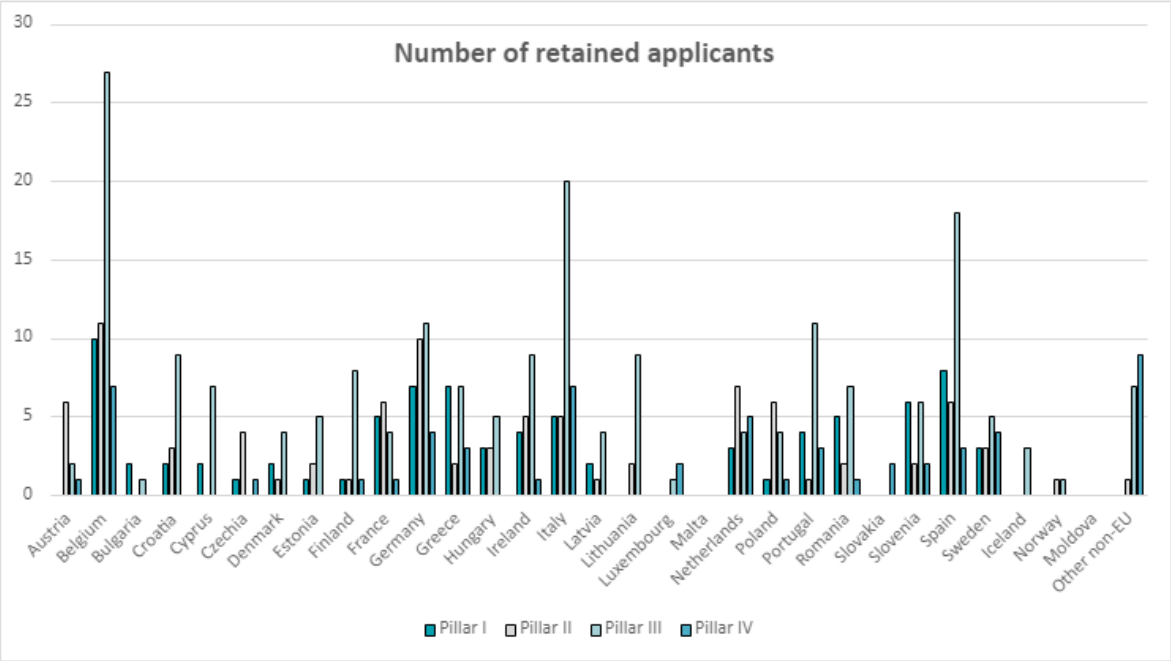
3.2. Overview of applicants and participants in project grants

There was a total of 786 individual eligible applicants[305] for project grants under the EU4Health Programme calls related to cancer, across the four pillars of the EBCP. The eligible applicants were from all 27 EU Member States, as well as other non-EU countries associated with the EU4Health Programme (i.e. Norway, Iceland, Ukraine, Moldova, Montenegro) as well as non-EU countries not associated with the EU4Health Programme but involved as associated partners. These associated partners perform action tasks but without getting EU funding and without signing any grant agreement. We refer hereafter to this latter group of associated partners under the term “other non-EU”.

It is important to consider that each applicant rarely submits an individual application but rather forms a consortium to submit a single application. Of the 786 eligible individual applicants, a total of 468 were part of retained applications. In the figure below we show the number of retained applicants per country across each of the four pillars of the EBCP. Pillar III of the EBCP had the highest number of retained applicants with 199, followed by Pillar II with 91, while Pillars I and IV had 84 and 58 retained applicants respectively.

[305] An organisation participating in multiple projects is counted independently for each of the projects.

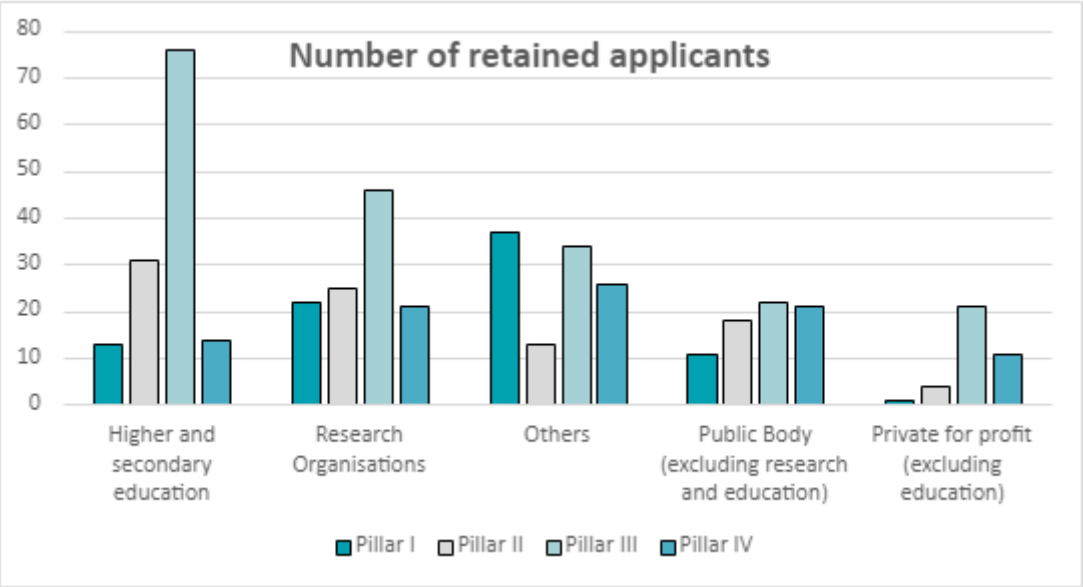
Figure 10. Number of successful applicants by EU27 Member State across the four pillars of the EBCP



Source: Authors' elaboration based on DG SANTE/HaDEA data.

The country with the highest number of retained applicants was Belgium with 59 in total (10 for Pillar I, 11 for Pillar II, 27 for Pillar III, and 11 for Pillar IV). It should be noted that a substantial proportion of these applicants may represent EU organisations rather than national organisations, as most EU umbrella organisations are based in Brussels. The other two countries with the highest number of retained applicants were Italy with 40 (5 for Pillar I, 5 for Pillar II, 20 for Pillar III, and 10 for Pillar IV) and Spain with 38 (8 for Pillar I, 6 for Pillar II, 18 for Pillar III, and 6 for Pillar IV). The country with lowest number of retained applicants was Malta with 1 (1 for Pillar IV).

Figure 11. Number of successful applicants by type of organisation across the four pillars of the EBCP



Source: Authors' elaboration based on DG SANTE/HaDEA data.

When turning to the types of organisations applying for funding, the majority of applicants were higher and secondary education institutions with 134 retained applicants, followed by research organisations with 114 retained applicants. Public bodies (excluding research and education) accounted for 72 retained applicants, which may be due to the fact that public bodies have access to other types of funding such as joint actions which they are more likely to participate in. On the other hand, private for-profit organisations (excluding education) accounted for 37 retained applicants, as such organisations tend to apply for procurement contracts and do not often apply for project grants.

3.3. Overview of applicants and participants in procurement contracts

There was a total of 114 individual eligible applicants for procurement contracts[306] under the EU4Health Programme calls related to cancer, across the four pillars of the EBCP. The eligible applicants were from Austria, Belgium, Czechia, Denmark, Finland, France, Germany, Greece, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Poland, Portugal, Romania, Slovenia, Spain and Sweden. Of the 114 eligible individual applicants, a total of 26 applicants were part of retained applications. The country with the highest number of retained applicants was Belgium with 10 in total (7 for Pillar I, 1 for Pillar III, and 2 for Pillar IV). It should be noted that a substantial proportion of these applicants may represent EU organisations rather than national organisations, as most EU umbrella organisations are based in Brussels.

[306] An organisation participating in multiple projects is counted independently for each of the tenders.

When turning to the types of organisations applying for procurement contracts, 82% of the eligible applicants were private for-profit organisations (excluding education) with 17 retained applicants.

3.4. Experience and barriers in the application process

The overall experience with the **application process** under the EU4Health Programme was assessed based on interviews with participants in Joint Actions (JAs), project grants, and procurement contracts under the four pillars of the EBCP. There is a consensus amongst organisations participating in JAs and project grants that the application process is lengthy and documentation-heavy, which can pose challenges for certain organisations, particularly for smaller ones with limited financial and human resources. However, organisations participating in project grants and a JA highlighted that having prior experience in EU funding mechanisms, particularly Horizon 2020, facilitated the application process to some extent. Organisations participating in procurement contracts added that being aware of upcoming tenders through the release of the EU4Health Work Programme, as is the case for all types of grants and procurement, allowed stakeholders to plan and prepare their participation in advance.

Participants in JA and project grants highlighted some obstacles and barriers regarding the **financial application process**. The financial application process under the EU4Health Programme is considered very different compared to previous applications, making it burdensome for all involved parties. The level of detail required for the financial application (e.g. detailed budget tables containing expected costs) proved to be highly time-consuming and challenging. This challenge is particularly relevant for small and non-profit organisations that often lack administrative support. Interviewed stakeholders highlighted the need for guidelines or video tutorials to assist applicants in navigating the financial application process and elaborating the financial offer effectively.

The **co-funding** scheme established in the EU4Health Regulation[307] within which the Commission covers 60% of the eligible costs, while the awarded organisations will have to pay for 40%, was a topic discussed by many interviewees participating in JAs and project grants. In some cases, where at least 30% of the budget of the proposed action is allocated to Member States whose Gross National Income (GNI) per inhabitant is less than 90% of the Union average or bodies from at least 14 participating Member States participate in the action, of which at least four are Member States whose GNI per inhabitant is less than 90% of the Union average, the funding by the Commission goes up to 80%. During the final study workshop, DG SANTE clarified that the 20% co-funding contribution from participating organisations can be a non-cash contribution, with work of staff counting towards the co-funding. Organisations participating in JAs reported no issues covering the co-funding required, however, national institutions assigned to JAs needed to justify the project's national interest and carefully monitor the use of national resources.

[307] Article 8 of Regulation (EU) 2021/522 of the European Parliament and of the Council of 24 March 2021 establishing a Programme for the Union's actions in the field of health ('EU4Health Programme') for the period 2021-2027.

While the co-funding scheme was not considered a direct obstacle, those participating in JAs and project grants stated that it in some instances it can be a hurdle, especially for smaller Member States, smaller organisations, non-profit organisations, medical organisations and universities lacking financial means to cover their share and therefore participate in such calls. During the final study workshop, it was noted that in some cases, partners from Ukraine struggled to find the required co-funding, and other consortium members had to assist. Suggestions were made to revise the co-funding scheme to increase the EU funding share (which could only be done through a revision of the EU4Health regulation by the European Parliament and Council), making it more accessible for a broader range of organisations. An example provided during the final study workshop was that of DG JUST, which co-funds 90% of the funding in some projects.

Concerns were also raised from two organisations participating in JAs in regard to the overall **budget allocation** of the JA. Those participating in JAs highlighted that despite the overall budget of JAs being substantial, the large number of participants often leads to a minimal allocation for individual institutions, which is sometimes inadequate for entities in certain Member States, particularly when considering salary levels, making their participation more informative than participative. In addition, in some Member States, competent authorities face constraints in hiring extra staff for projects, relying on existing workforce. This limitation hampers participation in longer-term projects due to workload concerns.

Another topic commonly discussed by those participating in project grants is in relation to the various challenges faced in **assembling a consortium** to respond to the call. Those participating in project grants highlighted that forming a consortium was one of the most challenging parts of the application process. Identifying and contacting suitable organisations for collaboration and articulating the project idea to them, conceptualising the collaboration into work packages and organising the tasks among partners were the key challenges highlighted. However, the coordinators of grants reported that prior experience and connections with various institutions and organisations working on the subject matter facilitated consortium formation. Additionally, in some cases discussions with potential partners had already begun before the official release of the call for proposals based on the publication of the EU4Health Work Programme. Additionally, one organisation participating in a JA highlighted that restricting the participation of European organisations not affiliated with specific Member States (such organisations can only participate as associated partners or subcontractors) was a challenge they had to overcome. During the final study workshop, it was also highlighted that the participation of patient associations in Joint Actions is challenging due to the requirement of a legal connection to competent authorities, which often does not exist.

Finally, those interviewed highlighted some **timing constraints** for participation in JAs and project grants. In the case of certain JAs, the timing of calls posed challenges for national authorities' participation as some calls coincided with election periods or with competing political priorities. In the case of project grants, timing constraints affected the ability to gather necessary information from consortium members, potentially hindering efficient collaboration and project development.

In conclusion, the insights gathered from the interviewed stakeholders shed light on various challenges and experiences with the application process under the EU4Health Programme. The inability of relevant actors to participate in JAs or project grants for the various reasons described above (e.g. burden of application process, lack of funding), which is particularly relevant for those based in small countries or small organisations, may translate in disparities in the level of implementation of the provisions of the EBCP and reinforce existing inequalities across the EU. Addressing the abovementioned challenges will be crucial to ensure that representatives from all EU Member States, as well as Iceland and Norway, can apply for future project grants or be involved in future JAs to foster collaboration, enhance efficiency, and maximise the potential impact of projects funded under the EU4Health Programme.

3.5. Experience and barriers in the implementation of projects

All of the projects assessed in the case studies had been overall progressing according to the plan, achieving the corresponding milestones and with a timely submission of deliverables. The different project teams were well aware of the risks that could arise during the project implementation and had strategies in place to deal with them. In that regard, the risk management section that needs to be included as part of the proposal helped project teams reflect and easily manage any emerging risks.

Whereas the selected projects and actions differed on the topic and their nature, some barriers in implementation were common across project grants, procurement contracts and Joint Actions. Interviewed organisations participating in all of the types of projects and actions mentioned the **importance of coordination amongst consortia running projects with similar scope and objectives**. In some cases, such projects were directly interconnected as in the case of the procurement contract to develop the EU mobile application on cancer prevention and the project grant aimed to support and enhance the design, development and targeted promotion of the same application (i.e. BUMPER). Interviewees participating in the two projects mentioned a lack of alignment of timelines and lack of coordination, especially at the early stages of the project between the project teams. In other cases, project grants and Joint Actions (JAs) ran in parallel on similar topics without coordination and alignment, which could lead to overlaps and the **duplication of work**. This problem was mentioned particularly by stakeholders interviewed who were participating in the JA PERCH. In this regard, there are several EU funded projects focusing on HPV prevention such as the Joint Action PERCH, and the project grants PROTECT-EUROPE, ReThinkHPVaccination, or River EU[308]. An interviewed organisation participating in JA PERCH mentioned that they would have appreciated the support of the Commission services to align and coordinate between the projects, but that they had to do it themselves. One participant to the

[308] For instance, one of the objectives of JA PERCH is to improve the capacity of EU Member States to implement vaccination campaigns; while PROTECT-EUROPE includes one objective of providing EU Member States with guidance and campaign tools for promotion vaccination.

project's final workshop also mentioned the lack of coordination between cancer-related projects funded via the EU4Health Programme and Horizon Europe. It is worth noting, that calls for proposals for projects with a similar scope or objective are sometimes launched in parallel, to allow stakeholders which do not have any legal or financial link with national competent authorities to collaborate with ongoing Joint Actions and receive EU funding through other means. This is done with the intent to foster synergies and collaboration between stakeholders, although the above-mentioned views indicate there may be room for improvement. In this respect, in order to support synergies between different projects funded under the EU4Health programme in the area of cancer, the Joint Research Centre has developed a cancer project tool that can be found on their website[309].

Interviewed organisations mentioned that **the Commission services could facilitate the coordination between projects** by putting in contact the different project leaders. Another interviewee stated that the Commission services should consider publishing a single call for intertwined projects, in which all relevant stakeholders fall under a single consortium to improve communication and coordination

Another issue identified by interviewees from all project and action types referred to **country specific characteristics that may hinder advances at national level**. In that respect, all of the analysed projects were found to facilitate the debate at national level for the implementation of some of the initiatives encouraged by the EBCP. However, country specific capabilities and needs, in particular in terms of their infrastructure and workforce characteristics, were argued to act as barriers to translate the EU achieved objectives into national ones.

Some specific barriers were experienced by organisations participating in project grants and JAs. For instance, some interviewees mentioned as a barrier that the **duration of project grants and JAs was too short** to effectively achieve the set objectives. This was mentioned by stakeholders interviewed participating in projects and actions under different Pillars. For instance, an organisation participating in JA PERCH mentioned that they needed more time to achieve the objectives in certain EU MS due to the specific needs and characteristics of their healthcare systems. Similarly, an interviewee participating to the PRAISE-U project mentioned that duration should be expanded to ensure the efficient use of the infrastructure and mechanisms developed. In this context it is however important to note that the duration for projects is usually 3 years, as per the limits which are set by the EU4Health Programme. Additionally, some interviewed organisations identified the **uncertainty on the continuation of funding** as a hindrance to project implementation. This uncertainty raises concerns on the sustainability of the outcomes achieved so far. However, as mentioned by a participant to the project's final workshop, it should be noted that the Commission releases before the start of the year the EU4Health Work Programme in which information on all the funding to be allocated in the subsequent year is indicated[310]. In some cases, such as for the project EU-CAYAS-NET on the development of an online network for cancer patients and survivors, although a call for a second phase of the project had been

[309] European Commission (2024). Cancer Projects tool. Available at: Link.

[310] European Commission (2024). EU4Health Work Programmes 2021-2024. Available at: Link.

announced, there will be a gap between the funding of the current phase of the project and the next one.

In addition, interviewed organisations participating in project grants and JAs mentioned that they would like **the Commission services to be more involved** and supportive during project implementation. In particular, interviewees mentioned that it would be beneficial to increase the number of meetings in which the Commission services participate to get more guidance and improve coordination. It should be noted that the Commission services regularly liaise with the beneficiaries and always accepted requests for meetings. At the same time, giving the high number of projects ongoing in parallel, this sometimes proves challenging.

Another way in which the Commission services could increase their involvement, as pointed out by one interviewed organisation would be for the relevant and corresponding Commission services to further **increase their dissemination of the projects** and their outcomes. This would help them gain more visibility, and encourage further uptake of the results of the projects, even at the national level. In this respect, it should be noted that project grants and JAs usually have a part of the budget, or a full "work package" aimed at "communication and dissemination activities". Additionally, the Commission services provide further support to dissemination through several communication materials, including the organisation of showcasing events[311] or the development of a specific website on cancer-related projects funded under the EU4Health Programme[312].

Some specific hindrances to project implementation were mentioned by interviewed organisations participating in project grants. Interviewees in particular mentioned the **financial reporting to be quite burdensome**. The financial reporting for EU projects funded under the EU4Health programme is different with respect to previous or similar EU projects. In this case, participants need to provide a detailed financial report with unit costs stating the amount and the reason for every cost. Interviewees reported that the process turns out to be very time-consuming as instructions on how to calculate and report such costs are unclear, and as there are no standardised system for collecting financial reports from multiple partners. In this respect, as mentioned by a participant to the project's final workshop, the Commission services have developed a simplified version for the budget table for the application process which will be used for upcoming funded project grants.

A related barrier refers to the fixed unit costs (i.e. per diem) which are pre-established for travel expenses (e.g. travel tickets, accommodation). According to all interviewees, **pre-defined unit costs for travel expenses are lower than the actual incurred costs**. Several of the interviewees mentioned that this was particularly a problem for small and non-profit organisations who could not bear the cost. A particular issue with travel expenses refers to the fact that participants to conferences and events organised as part of the projects may have particular health-related needs (e.g. for cancer patients and survivors). This implies that they

[311] European Commission (2023). Europe's Beating Cancer Plan – First EU4Health Project Showcase. Available at: Link.

[312] European Commission (2024). Europe's Beating Cancer Plan. Delivering on the EU Cancer Plan through dozens of EU4Health funded projects. Available at: Link.

may need to have a good rest to participate in a productive manner in events and meetings, therefore needing to take specific flights, or additional hotel nights. Sometimes they may need to travel with special equipment or company (e.g. guide dog). However, the current scheme for travel expenses does not take into account these special needs and thus does not cover for such costs.

In conclusion, all of the analysed projects were assessed as **helping in the implementation at the national level of initiatives under the EBCP**. In fact, all the projects were facilitating discussions and exchanges between relevant national stakeholders across the EU. Additionally, the projects helped identify and bring together stakeholders who could be contacted to create harmonised standards at EU-level. However, the current **financial and administrative burden** that participating in EU4Health programmes entail in the case of project grants and Joint Actions (JAs) acts as a **barrier** for several key stakeholders and Member States to participate. This is in particular the case for non-profit organisations and small Member States. This represents a concern as many relevant actors in the field of cancer policy are non-profit organisations such as patient advocates. Additionally, if representatives of some Member States decide not to participate in projects, this may exacerbate existing disparities across the EU.

Additionally, it is important to have the **Commission services' support to build synergies and coordination between different projects and for the further dissemination of project outcomes**. Although a project may be successful in achieving its objectives, further progress in particular at the national level may be hindered due to a limited dissemination. Further dissemination by the Commission could help guarantee the progress of the project objectives at the policy level, thus further advancing the achievement of the EBCP objectives.

4. Monitoring framework

This section presents a recommendation for a Monitoring Framework provided by the study. The Monitoring Framework, which is included in Annex 7, aims at providing timely information and analysis of the implementation of the initiative and the evolution of cancer in the EU to inform strategic adjustments, operational tracking and decision-making, as well as ensuring accountability and transparency. We start by describing the scope of the monitoring framework, which encompasses the 42 actions of the EBCP. Next, we list the main existing reporting requirements and data sources and the potential gaps. Lastly, we provide a proposed outline of the monitoring framework, which is presented in a comprehensive table in Annex 7.

4.1. Identification of the monitoring scope

The scope of the monitoring framework of the EBCP reflects the key domains of the Plan. It includes the 42 actions under the four pillars of cancer prevention, early detection, cancer care, quality of life for cancer patients, survivors and carers and the three cross-cutting themes related to research and innovation, cancer inequalities and paediatric cancers.

The monitoring framework highlights specific indicators related to these domains and identifies the most important metrics in these areas to help track progress and achievement and to drive programmatic improvements and adjustments. The framework covers the three components described below:

- **Output**: Output indicators inform on the timely execution of the actions of the initiative. By measuring the direct implementation of legislative and non-legislative measures, they allow to monitor the timely progress of the initiatives of the EBCP.

- **Results**: Result indicators aim at measuring the direct effects of the actions in relation to their targets. Compared to impact indicators, they cover short-term effects causally linked to the interventions.

- **Impacts**: Impact indicators allow to assess the long-term effects of the initiatives of the EBCP. The aim of these metrics is to provide an overview of the level of achievement of the objectives of the actions of the Plan. They include indicators concerning the health status and needs of the EU population in relation to cancer prevention, screening and early detection, diagnosis and treatment and quality of life of patients and survivors.

The indicators belonging to these three domains were assessed with respect to their ability to provide information on the progress in the implementation of the actions of the EBCP, the direct results of these actions and the wider long-term impacts of the initiative, to address the general, specific and operational objectives of the Plan. Following the RACER principles outlined in the Better Regulation 'Toolbox' (Tool #43), the final list of indicators was selected based on their relevance (i.e. linked to the operational objectives to be achieved), acceptability (i.e. to be accepted by the

Commission and other relevant stakeholders), credibility (i.e. accessible to non-experts, unambiguous and easy to interpret), monitoring process (i.e. feasible to monitor at a reasonable cost and administrative burden), and robustness (i.e. difficult to manipulate).

4.2. Existing reporting and data collection

This section contains an overview of the availability and quality of existing reporting requirements and data to measure the progress, results and impacts of the EBCP. There are multiple sources of information to monitor the progress of the EBCP at EU and national level. **Output and result indicators** are mostly based on extensive information provided by EU Agencies, such as the **European Centre for Disease Prevention and Control (ECDC**). They make use of existing and future established **publications of the European Commission**. These include annual activity reports measuring the implementation and progress of EU initiatives, legislative acts, which inform on the timely enforcement of legislative measures, regulations and evaluation studies.

Impact indicators make use of numerous data sources listed below.

To start, the **European Cancer Inequalities Registry (ECIR)**[313] provides reliable metrics on cancer prevention, diagnosis and treatment and quality of life. The new tool was introduced as one of the 10 flagship initiatives of the EBCP with the goal of helping Member States address inequalities in cancer prevention, diagnosis and care. It provides regular reporting mechanisms based on quantitative and qualitative cancer indicators covering the whole cancer control continuum. The metrics include mostly result and impact indicators covering the broader objectives and long-term wider effects of the initiatives. In turn, the European Cancer Inequalities Registry builds on numerous sources of data. The **European Cancer Information System (ECIS)**[314] feeds some of the statistics of the ECIR. Introduced in 2012 and managed by the JRC,ECIS is a comprehensive health and research infrastructure providing harmonised indicators on cancer incidence, mortality, survival and prevalence across European areas. ECIS is fed with data from a variety of sources: incidence indicators are computed from data collected by European cancer registries, complemented with mortality and population statistics from Eurostat and WHO, while survival and prevalence indicators are the outcome of the EUROCARE project[315].

Other sources of data of the ECIR include articles published in peer-reviewed medical and scientific journals, Eurostat Statistics, or the WHO database. It should be noted that we identified some inconsistencies between some data reported in

[313] European Commission (undated). European Cancer Inequalities Registry. Available at: Link

[314] ECIS – European Cancer Information System. Available at: Link

[315] European Commission, European Cancer Information System. Available at: Link.

ECIR and the original source (e.g. Eurostat, ECIS)[316]. In addition to the data tool providing indicators on cancer, ECIR includes cancer country profiles (published in even years) and analytical reports (published in odd years) prepared by the OECD to assess countries strengths and weaknesses and compare their performance at EU level. Compared to the ECIR data tool, the cancer country profiles and analytical reports also provide information on input, process and output indicators related to the activities of some of the initiatives of the EBCP. Additionally, ECIR produces Inequality Factsheets that cover areas where data availability is limited (indicators that do not fulfil ECIR data quality criteria, such as data availability for at least 19 countries) and specific topic areas for emerging areas (currently for environmental indicators and childhood cancers).

The **Health Promotion and Disease Prevention Knowledge Gateway[317]** of the European Commission focuses on topics related to diets, physical activity, alcohol related harm and other fields related to the prevention of non-communicable diseases. It combines numerous sources of data organised in independent policy briefs. It contains numerous information on the incidence, costs of different diseases and the policies put in place by the EU Member State to prevent them. The main topics covered refer to mental health promotion, non-communicable disease prevention, risk factors of non-communicable diseases, societal impacts of non-communicable diseases, food and non-alcoholic beverages marketing to children and adolescents, food-based dietary guidelines in Europe.

The **Eurobarometer Surveys** are the polling instrument used by the European Commission, the European Parliament and other EU institutions and agencies. They combine different methodologies to monitor the attitudes of EU citizens on political and social topics, including aspects related to cancer prevention such as health education and attitudes towards alcohol consumption and tobacco and nicotine products.

The **International Agency for Research on Cancer (IARC)[318]** is the specialised cancer agency of the WHO and provides locally recorded high-quality data on cancer incidence, mortality and prevalence worldwide. Global cancer statistics are presented in the Global Cancer Observatory (GCO)[319], an interactive web-based platform.

The **European Environment Agency (EEA)[320]** provides information on environmental risk factors and cancer risks. In addition to the system of indicators available on the website, the institution also publishes reports covering environmental and occupational cancer risks related to air pollution, indoor exposure

[316] For example for 2019 obesity rates, see differences between ECIR (Link) and Eurostat (Link), or for 2022 cancer incidence rates, see differences between ECIR (Link) and ECIS (Link).

[317] European Commission, Health Promotion and Disease Prevention Knowledge Gateway. Available at: Link

[318] WHO, International Agency for Research on Cancer. Available at: Link

[319] WHO, Global Cancer Observatory. Available at: Link

[320] European Environment Agency. Available at: Link

to radon, exposure to second-hand smoke, exposure to certain chemicals known or suspected to induce cancer.

The **European Food and Safety Authority (EFSA)**[321] is the EU agency providing scientific advice on topics related to risks connected to the food chain. Importantly, it provides the Comprehensive Food Consumption Database[322], which contains information on the dietary habits and food consumption in the EU.

The **European Urban Mobility Observatory**[323] provides information and sharing of knowledge and experiences on sustainable urban mobility in Europe. Financed by the EC's Directorate General for Mobility and Transport, it provides updates on the initiatives implemented at EU and national levels on the Sustainable Urban Mobility Plans (SUMPs).

The **Global Burden of Disease Study**[324], a platform with comprehensive data on the magnitude of diseases, injuries and risk factors across age groups, sexes, countries, regions and time. Led by the Institute for Health Metrics and Evaluation (IHME) at the University of Washington, the project involves more than 9,000 researchers from more than 160 countries and territories.

4.3. Data gap analysis

A gap analysis was conducted to assess whether all EBCP actions and the broader impacts of the initiatives can be monitored with existing indicators or whether new sources of evidence may be needed. Given the numerous sources of information available at the global, EU and national level, no additional needs for reporting requirements were identified. Annual activity reports, actions-specific evaluation studies and legislative acts are sufficient to cover the implementation of the actions of the EBCP through output and result indicators. Impact metrics related to the wider effects of the initiative are also comprehensively covered by existing datasets provided by EU and non-EU agencies. Remarkably, current monitoring and evaluation systems were considered comprehensive enough by the relevant stakeholders interviewed. Thus, in line with the Better Regulation Guidelines, the gap analysis proposed for this study makes the most out of existing data and monitoring requirements to ensure cost-efficiency, contain the administrative burden and increase the coherence and comparability of the results.

[321] European Food and Safety Authority. Available at: Link.

[322] EFSA, Food Consumption Data. Available at: Link

[323] European Commission, EU Urban Mobility Observatory. Available at: Link.

[324] Institute of Health Metrics and Evaluation, Global Burden of Disease. Available at: Link.

4.4. Outline of the monitoring framework

The monitoring framework developed in this study (see Annex 7) consists of two parts:

(i) A system of output and results indicators to monitor the progress and direct effects of the 42 actions of the EBCP.

(ii) A system of impact indicators to assess the combined, integrated effects of the initiative with respect to the operational objectives of the EBCP.

Each indicator in the framework is fully characterised by a short presentation that includes the definition, description, type of metric, unit of measurement, data source, target and baseline values when applicable. **Quantitative metrics** are either measured in absolute terms, percentage terms or through rate measurements. **Qualitative metrics** include categorical variables, which count the number of observations in each category, and indicator variables informing on whether an event occurred or not. The inclusion of several dimensions of analysis allows for a comprehensive monitoring approach based on the combination of qualitative and quantitative methods.

5. Conclusions

In a context of high prevalence of cancer cases and cancer mortality, resulting in high socio-economic impacts estimated to exceed EUR 100 billion annually in Europe, the EBCP was developed to address the entire pathway of cancer including prevention, early detection, diagnosis and treatment, and quality of life of cancer patients and survivors, as well as the cross-cutting themes of research, innovation and technologies, reduction of inequalities and paediatric cancer.

Contrasted baseline situation and trends across Member States

The cancer prevention landscape across EU Member States is complex. Regarding tobacco control, while the EBCP targets a significant reduction in smoking prevalence, disparities persist among Member States. Some countries have high rates of daily smoking, necessitating the implementation of stricter tobacco control policies, while other countries stand out for their successful tobacco control measures and having some of the lowest smoking rates in the EU. Similarly, efforts to reduce harmful alcohol consumption face varying degrees of success across the EU, with varying levels of alcohol consumption. Addressing obesity and promoting physical activity pose significant challenges across the EU. Despite efforts to enhance health literacy and promote healthy lifestyles, obesity rates remain high in several Member States. Moreover, inadequate engagement in physical activity persists in some countries, necessitating comprehensive strategies to reverse these trends and prevent future cancer incidences. Environmental pollution and occupational hazards also contribute significantly to cancer risk. While the EBCP aligns with the European Green Deal to mitigate pollution exposure, some countries face higher levels of air pollution, while efforts to reduce occupational exposure to carcinogens require greater commitment from countries with higher rates of work-related cancer deaths. Infections linked to cancer, such as Hepatitis B, HPV, and Helicobacter pylori, present additional challenges. While vaccination initiatives aim to reduce infection rates, discrepancies in coverage persist among Member States, particularly among females and in certain regions. While the EBCP provides a comprehensive framework for cancer prevention, its success depends on efforts by EU Member States to implement evidence-based interventions, strengthen regulatory measures, and address disparities in healthcare access and public health initiatives.

Significant disparities exist in the implementation and participation rates of screening programmes across EU Member States, emphasizing the urgent need for standardised approaches and increased public awareness. The availability and uptake of screening programmes for breast, cervical, and colorectal cancers vary widely among EU countries. Of particular concern is the comparatively lower uptake of colorectal cancer screening across most European countries, highlighting the need to expand screening efforts and improve accessibility to screening tests. With regards to diagnosis and treatment, disparities in access to radiotherapy services across EU Member States demonstrate the need for strategic investments to bridge existing gaps and ensure equitable access to cancer treatments for all patients. Finally, advancements in early detection, therapeutic interventions, and supportive

care have significantly enhanced cancer survival rates across the EU. However, the burden of cancer, as measured by DALYs, varies widely among Member States, reflecting disparities in quality of life for cancer patients and survivors.

Technological and political advancements, persistent societal and environmental risk factors and lessons learnt from the pandemic

Since the adoption of the EBCP, advancements in cancer research and treatment methods have emerged, fuelled by technological innovations. Europe's strengths include cancer vaccine progress, mRNA therapeutics, and precision medicine, enhancing early detection and personalised treatment. Additionally, AI and digital health integration promise equitable cancer care, although caution is warranted regarding misinformation dissemination. The COVID-19 pandemic also accelerated medical technology development, emphasising the crucial role of data-driven policymaking.

In this context, several policy initiatives contribute to achieving the objectives of the EBCP. Within the European Green Deal, the Farm to Fork strategy aims to promote healthy diets to reduce obesity and the prevalence of diseases such as cancer. The Zero Pollution Action Plan includes various actions to reduce the number of premature deaths caused by air pollution. In addition, the Pharmaceutical Strategy aims to revise the pharmaceutical legislation to ensure access to affordable medicines, the competitiveness of the European pharmaceutical industry and ensure crisis preparedness. Also, the new recommendation on cancer screening includes updated methodologies and tests for breast, cervical and colorectal cancer screening and introduces organised cancer screening programmes for lung, prostate and, in certain circumstances, gastric cancer. These policies are relevant for the implementation of the EBCP and some actions are present in both the EBCP and these other strategies or action plans.

However, recent societal trends have the potential to significantly impact cancer occurrence and awareness in Europe. Despite efforts to promote healthy lifestyles, disparities persist in tobacco and alcohol consumption, with emerging products like e-cigarettes complicating the success of control measures. Obesity rates continue to rise, contributing to a significant cancer burden. Work-related carcinogen exposure remains a concern, requiring coordinated action for worker protection. Additionally, the number of oncology specialists is alarmingly declining, and oncology seems less chosen by medical students, thus revealing the fragility of European health systems and the importance of a robust and resilient health workforce in order to detect cancers and ensure quality diagnosis and treatment. Also climate change poses new challenges, affecting cancer risk and healthcare access. Socio-economic disparities exacerbate inequalities in cancer care across European regions, highlighting the need for comprehensive policy responses. The pandemic worsened social health inequalities and disrupted cancer detection and treatment, with over 100 million missed screenings and delayed surgeries and chemotherapy for many Europeans. Cancer patients faced increased mortality risk from COVID-19 due to immunosuppression and age-related vulnerabilities.

National cancer plans generally well aligned with the EBCP

Before the adoption of the EBCP in 2021, 22 EU Member States, Iceland and Norway had a national cancer plan in place. After the adoption of the EBCP, four countries developed their national cancer plans, while 10 updated their existing plans. In addition, by the time of the end of our country analysis (December 2023) three countries were planning to update their plans. The majority of cancer plans were found to be well-aligned with the EBCP, covering its four pillars. On the other hand, the cross-cutting themes were sometimes partly covered or not covered by national cancer plans.

For Pillar I on prevention, all countries analysed included initiatives to tackle lifestyle habits related to cancer risk-factors in their national plans, with different levels of strictness. For Pillar II on early detection, all countries analysed had cancer screening programmes in place for breast, colorectal and cervical cancer except for a few exceptions. Additionally, two EU Member States had in place lung cancer screening programmes, while as a response to the recommendation in the EBCP, six other EU Member States were running or planning to run pilot programmes. Regarding Pillar III on diagnosis and treatment, the national cancer plans included a wide range of initiatives to improve the quality of diagnosis and treatment. Some common elements included greater patient involvement in decision-making processes, and the continuous training of healthcare professionals. For Pillar IV on quality of life of cancer patients and survivors, the initiatives included varied, including actions for the financial support for cancer patients and carers, providing psychological support for cancer patients and relatives, and the introduction of “right to be forgotten” legislation.

With regard to the cross-cutting themes of the EBCP, many of the analysed countries had introduced programmes and action plans aimed at fostering cancer research. However, there were clear differences in research funding depending on the size of the country, and related infrastructure and workforce availability. In terms of reduction in cancer inequalities, our analysis demonstrated that disparities are also a concern between regions within analysed countries, in particular for those with decentralised healthcare competences at the regional level. With regard to paediatric cancer, within analysed national cancer plans, this represented a priority area in some cases, while in the majority of cases paediatric cancer fell under the umbrella of other priority areas on care or quality of life.

Financial, institutional, clinical and behavioural barriers affecting the implementation of national measures

From financial barriers to policy and institutional challenges, behavioural and clinical obstacles, a range of issues hinder the implementation of national cancer-related policies and progress in cancer prevention, treatment, and care. In addition, the COVID-19 pandemic further exacerbated existing challenges, leading to resource reprioritisation, delays in cancer services, and increased health inequalities. The abovementioned barriers have a differential impact on the pillars and cross-cutting themes of the EBCP. While behavioural barriers predominantly affect the quality of life and prevention pillars, clinical barriers primarily impact quality of life, diagnosis

and treatment, and early detection pillars of the EBCP. Financial and institutional barriers, however, exert an influence across all pillars and cross-cutting themes, highlighting the need for tailored approaches to address these challenges effectively. Addressing these barriers requires a concerted effort from policymakers, healthcare professionals, civil society organisations, and industry stakeholders to ensure alignment, improve collaboration, and prioritise innovative solutions. Equitable and effective cancer control strategies can only be ensured if these challenges are tackled collectively, ensuring alignment with the goals and objectives of the EBCP and better outcomes for cancer patients and communities across the EU. The European Commission can play an important role in supporting Member States' efforts to combat cancer by enhancing coordination, improving research and innovation, strengthening regulatory frameworks, supporting smaller Member States, and promoting the standardisation and quality of care.

The EBCP remains relevant and should be strengthened

In spite of the rising incidence of cancer in Europe, advancements in treatment are improving outcomes and increasing the number of survivors, necessitating effective follow-up care. The EBCP has garnered widespread support for its ambitious goals and comprehensive approach, addressing all aspects of the cancer continuum, yet ultimate responsibility for action lies with national governments.

Despite EU and national efforts to reduce inequalities, these persist across countries and regions, socio-economic groups and the different stages of the cancer pathway. Based on our analysis, additional efforts could require targeting vulnerable groups, improving health literacy and addressing the socio-economic and commercial determinants of health. Similarly, the actions related to prevention need to be strengthened to reinforce health literacy, considering that progress is still limited with some lifestyle factors (e.g. obesity) even worsening.

The actions on delivering high-quality care and ensuring a high-quality health workforce could also be strengthened, as these objectives are currently hindered by the shortage of healthcare workforces, the lack of multidisciplinary teams and issues with the access to oncological medicines. To support the cross-cutting theme of research and innovation, further data availability and sharing could be promoted, as well as further collaboration between academia and the industry.

New actions may be needed on paediatric cancers and quality of life of patients and survivors, as several aspects are still insufficiently or not covered in the Plan and in national cancer plans. New actions may also be needed to tackle the shortage of healthcare workforce, to address the special needs of elderly patients, or to tackle rare cancers, as these areas are not covered in the Plan.

In addition, lessons from the pandemic, such as the importance of data utilization, telemedicine, and hospital infrastructure, underscore the need for EBCP adaptation to future health crises.

Lessons learnt to improve the application process and implementation of EU4Health cancer-related projects and actions

Organisations participating in projects and actions funded under the EU4Health Programme provided valuable insights into the details of the application process within the EU4Health Programme. The challenges highlighted, ranging from the burdensome nature of documentation requirements (for joint actions and project grants) to concerns over funding allocations and consortium formation (for project grants and procurement contracts), highlight the need for careful consideration and potential revision of certain aspects of the programme. The disparities in participation observed, particularly among smaller organisations and less affluent Member States, raise important questions about fairness and inclusivity in the distribution of EU funds. Addressing these challenges, for example through guidelines to facilitate the application process, or a revision of the co-funding scheme to increase the EU funding share, would not only facilitate smoother collaboration and project implementation but also contribute to levelling the playing field in terms of provisions of the EBCP and addressing any existing inequalities across the EU. It is important that measures are taken to ensure that all Member States, regardless of size or financial capacity, have equal opportunities to engage in projects under the EU4Health Programme in the field of cancer, thereby maximizing the programme's potential to achieve the goals and objectives set out in the EBCP.

Organisations participating in projects and actions funded under the EU4Health Programme also identified some barriers to project implementation. In the case of project grants and JAs, some barriers related to the financial and administrative burden that organisations need to incur to participate. A common barrier found across all type of projects and actions (i.e. project grants, procurement contracts and JAs) related to the limited coordination of various intertwined projects running in parallel. Similarly, another common barrier referred to the difficulties at the time of translating project objectives into national policy initiatives. In this respect, interviewed organisations pointed out that specific country characteristics (e.g. limited infrastructure, workforce shortage) may hinder advances at the national level. Addressing these different issues, for example through better coordination from the Commission between intertwined projects, increased dissemination of the project results, standardising the financial reporting, and taking into account special needs of cancer patients or survivors for the travel costs, will ensure more efficient allocation of EU funds and more effective and impactful implementation of the projects and actions.

The development of a monitoring framework of the EBCP

Assessing the progress of the EBCP at European level requires a comprehensive monitoring framework which combines the use of qualitative and quantitative metrics to track the degree of implementation of the actions and their direct and long-term effects. While output and result indicators are strictly linked to specific actions, impact indicators reflect the combined effects of the initiatives of the EBCP including the Cancer Mission as well as the broader impacts of socio-economic, demographic,

and environmental trends. The monitoring framework proposed in this study relies on numerous data sources to monitor each action of the EBCP. Remarkably, the analysis of existing reporting requirements suggests that the available data sources are sufficient to compute the required system of metrics and no additional reporting mechanisms are needed.

6. Annexes

6.1. Annex 1: References

About GISTAR. Available at: Link

Agapiou, G. (2023). Men to be offered screening for prostate cancer. Available at: Link.

Aggarwal et al. (2018). Radiation therapy research: a global analysis 2001-2015. Available at: Link

Aggarwal et al. (2022). What really matters for cancer care – health systems strengthening or technological innovation? Available at: Link

Albreht et al. (2017). European guide on quality improvement in comprehensive cancer control. Available at: Link

Albreht et al. (2018). Pursuing breakthrough in cancer drug development. Available at: Link

Albreht et al. (2022). Development of cancer policies between Europe Against Cancer Programme and Europe's Beating Cancer. Available at: Link

Anderson B. et al (2023). Health and cancer risks associated with low levels of alcohol consumption. Available at: Link

Bărbulescu et al. (2023). A Pilot Colorectal Cancer Study Using Fecal Occult Blood Tests and Colonoscopy to Identify the Weaknesses of the Romanian Public Healthcare System before Implementing National Screening. *International journal of Environmental Research and Public Health,* 20(3): 2531. Available at: Link

Baumann et al. (2023), Engaging European society at the forefront of cancer research and care. How discussions at the 5th Gago Conference on European Science policy led to the Heidelberg Manifesto. Available at: Link

Bertollini, R., Ribeiro, S., Mauer-Stender, K., & Galea, G. (2016). Tobacco control in Europe: a policy review. *European Respiratory Review*, *25*(140), 151-157.

Bi et al. (2019). Artificial intelligence in cancer imaging: clinical challenges and applications. Available at: Link

BNN (2023). Cyprus to Introduce Systematic Prostate Cancer Screening in National Health Scheme. Available at: Link

Bourhis et al. (2019). Clinical translation of FLASH radiotherapy: why and how?. Available at: Link

Breda J, McColl K, Buoncristiano M, Williams J, Abdrakhmanova Z, Abdurrahmonova Z et al. (2021). Methodology and implementation of the WHO childhood obesity surveillance initiative (COSI). Available at: Link

Cancer Image Europe. Available at: Link

CDDF, ECPC & EFPIA (2019). Joint position paper on personalized oncology. Available at: Link

CEDICROM (2023). Basic Project Information. Available at: Link

Chambers et al. (2018). Advancing the Science of Implementation across the Cancer Continuum. Available at: Link

Chakraborty et al. (2021). From COVID-19 to Cancer mRNA Vaccines: Moving From Bench to Clinic in the Vaccine Landscape. Available at: Link

Charalambous et al. (2023). Big Data, Machine Learning, and Artificial Intelligence to Advance Cancer Care: Opportunities and Challenges. Available at: Link

COMFORT. Available at: Link

Council of the European Union (2013). Council Directive 2013/59/EURATOM of 5 December 2013 laying down basic safety standards for protection against the dangers arising from exposure to ionising radiation, and repealing Directives 89/618/Euratom, 90/641/Euratom, 96/29/Euratom, 97/43/Euratom and 2003/122/Euratom. Available at: Link

Council of the European Union (2022). COUNCIL RECOMMENDATION of 9 December 2022 on strengthening prevention through early detection: A new EU approach on cancer screening replacing Council Recommendation 2003/878/EC. Available at: Link

Council of the European Union (2024). Air quality: Council and Parliament strike deal to strengthen standards in the EU. Available at: Link

CraNE (undated). European Network of Comprehensive Cancer Centers. Available at: Link

Croatian Ministry of Health (2020). Nacionalni Programme Za Probir I Rano Otkrivanje Raka Pluća 2020 – 2024. Available at: Link.

Cruz et al. (2018). Tracking of food and nutrient intake from adolescence into early adulthood. Available at: Link

Czech Early Detection Programme for Lung Cancer. Available at: Link

Czech Ministry of Health (2021). Pacientská rada 2021–2025. Available at: Link

Czech Ministry of Health (2022). Call to action from the Expert Conference on oncology “Modern Cancer Control: Saving Lives through Smart Solutions”. Available at: Link

Danish Ministry of Health (2016). Kræftplan IV. Available at: Link.

Danish Multidisciplinary Cancer Group (2023). Om DMCG. Available at: Link

De Azambuja et al. (2014). The landscape of medical oncology in Europe by 2020. Available at: Link

De Koning et al. (2020). Reduced lung-cancer mortality with volume CT screening in randomized trial. Available at: Link

Denicolai et al. (2020). Precision medicine: Implications for value chains and business models in life sciences. Available at: Link

Department of Health (2023). Ministers of Health bring into law the world’s first comprehensive health labelling of alcohol products. Available at: Link

Dinmohamed et al. (2020). Fewer cancer diagnoses during the COVID-19 epidemic in the Netherlands. Available at: Link

Dutch National Institute of Public Health and the Environment (2023). Breast Cancer Screening Programme. Available at: Link

ECDC (2021). Surveillance Atlas for Infectious Diseases. Available at: Link

ECHoS (undated). ECHoS. Available at: Link

Edwards et al. (2022). Evaluating tobacco industry ‘transformation’: a proposed rubric and analysis. Available at: Link

EFPIA (2019). Unleashing the potential of data to improve cancer care. Available at: Link

EFPIA (2020). The principles of a European Cancer Dashboard: Cancer policy stakeholders converge. Available at: Link

EHDEN. Available at: Link

EHDS (2022). HealthData@EU Pilot. Available at: Link

Employment, Social Policy, Health and Consumer Affairs Council (2022). A new approach to cancer screening. Available at: Link

EU-OSHA (2016). Roadmap on carcinogens. Available at: Link

European Agency for Safety and Health at Work (2014, last update 2022). Work-related cancer. Available at: Link

European Cancer Organisation (undated). Covid-19 & Cancer Data Intelligence. Available at: Link

European Cancer Patient Coalition (undated). Intergroup. Available at: Link

European Commission EU Funding & Tenders Portal. Call for Proposals to increase health literacy for cancer prevention and care - CR-g-24-39. EU4H-2024-PJ-02-2. Available at : Link

European Commission (undated). EU mission: cancer. Available at: Link

European Commission (undated). Europe's Beating Cancer Plan. Delivering on the EU Cancer Plan through dozens of EU4Health funded projects. Available at: Link

European Commission (undated). European Health Data Space. Available at: Link

European Commission (undated). European Cancer Inequalities Registry. Available at: Link

European Commission (undated). European Cancer Information System. Available at: Link

European Commission (undated). European Platform on Rare Disease Registration (EU RD Platform). Available at: Link

European Commission (undated). European quality assurance scheme for breast cancer services. Available at: Link

European Commission (undated). Financial Transparency System Data from 2014 to 2022. Available at: Link

European Commission (undated). Health Promotion and Disease Prevention Knowledge Gateway. Available at: Link

European Commission (undated). HealthyLifestyle4All initiative (2021-2023). Available at: Link

European Commission (undated). Proposal for a revision of the Regulation on Food Information to Consumers (FIC). Available at: Link

European Commission (undated). Contracts - EU4Health 2022 Annual Work Programme. HADEA/2022/P2/02 - Specific contract under Framework Contract SANTE/2021/OP/0002 - Study on the evaluation of the EU Action Plan on Childhood Obesity. Available at: Link

European Commission (2014). Directive 2014/40/EU of the European Parliament and of the Council of 3 April 2014 on the approximation of the laws, regulations and administrative provisions of the Member States concerning the manufacture, presentation and sale of tobacco and related products and repealing Directive 2001/37/EC. Available at: Link

European Commission (2017). Final report of the HazChem@Work project. Available at: Link

European Commission (2019). Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions, The European Green Deal. COM(2019) 640 final. Available at: Link

European Commission (2019). School scheme explained. Available at: Link

European Commission (2020). Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. A Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system. COM/2020/381 final. Available at: Link

European Commission (2020). Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Pharmaceutical Strategy for Europe. COM/2020/761 final. Available at: Link

European Commission (2020). Directive of the European Parliament and of the Council amending Directive 2004/37/EC on the protection of workers from risks related to exposure to carcinogens or mutagens at work. Available at: Link

European Commission (2020). Chemicals Strategy for Sustainability: Towards a Toxic-Free Environment. Available at: Link

European Commission (2021). Communication from the Commission to the European Parliament and the Council Europe's Beating Cancer Plan COM(2021) 44 final. Available at: Link

European Commission (2021). Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Pathway to a Healthy Planet for All EU Action Plan: 'Towards Zero Pollution for Air, Water and Soil'. COM/2021/400 final. Available at: Link

European Commission (2021). Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. The New EU Urban Mobility Framework. COM/2021/811 final. Available at: Link

European Commission (2021). Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Union of Equality: Strategy for the Rights of Persons with Disabilities 2021-2030. COM/2021/101 final. Available at: Link

European Commission (2021). Call for participants: Commission Stakeholder Contact Group on Europe's Beating Cancer Plan. Available at: Link

European Commission (2021). EU strategic framework on health and safety at work 2021-2027: Occupational safety and health in a changing world of work. Available at: Link

European Commission (2021). Green paper on ageing: fostering solidarity and responsibility between generations. Available at: Link

European Commission (2021). SWD(2021) 14 final. COMMISSION STAFF WORKING DOCUMENT on a Strategic Agenda for Medical Ionising Radiation Applications (SAMIRA). Available at: Link

European Commission (2022). Commission acts to better protect people from asbestos and ensure an asbestos-free future. Available at: Link

European Commission (2022). Commission proposes new Euro 7 standards to reduce pollutant emissions from vehicles and improve air quality. Available at: Link

European Commission (2022). Eurobarometer survey on Sport and physical activity. Available at: Link

European Commission (2022). Europe's Beating Cancer Plan: Implementation Roadmap. Available at: Link

European Commission (2022). European Health Data Space. Available at: Link

European Commission. (2022). European Health Interview Survey EHIS. Available at: Link

European Commission (2022). Proposal for a revision of the Ambient Air Quality Directives. Available at: Link

European Commission (2022). State of health in the EU: companion report 2021. Available at: Link

European Commission (2023). Annex to the Commission Implementing Decision on the financing of the Programme for the Union's actions in the field of health ('EU4Health Programme') and the adoption of the work programme for 2024. Available at: Link

European Commission (2023). Steering Group on Health Promotion, Disease Prevention and Management of Non-Communicable Diseases. Mandate for a temporary sub-group on cancer. Available at: Link

European Commission (2023). Breast/colorectal/cervical cancer guidelines and quality assurance. Available at: Link.

European Commission (2023). Flagship initiatives. Available at: Link.

European Commission (2024). COMMISSION RECOMMENDATION (EU) 2024/1112 of 18 April 2024 on clinical audits of medical radiological practices carried out pursuant to Council Directive 2013/59/Euratom. Available at: Link

European Commission (2024). Commission welcomes European Parliament's adoption of the European Health Data Space and regulation on substances of human origin. Available at: Link

European Commission (2024). Medical Applications of Ionising Radiation for Better Patients' Lives A European Roadmap. Available at: Link

European Commission (2024). Proposal for a Council Recommendation on vaccine-preventable cancers. Available at: Link

European Commission (2024). EU4Health Work Programmes 2021-2024. Available at: Link.

European Commission (2024). Cancer Projects tool. Available at: Link

European Commission, Radiation protection series publication. Available at: Link

European Commission – Joint Research Centre (2023). Cancer in 2040: Estimates for an ageing Europe. Available at: Link

EEA (2022). Air pollution. Available at: Link

European Cancer Inequalities Registry. Estimated cancer deaths attributable to ambient particulate matter pollution (2019). Available at: Link

European Cancer Inequalities Registry. Estimated cancer deaths attributable to ambient particulate matter pollution (2019) by country. Available at: Link

European Cancer Inequalities Registry. Girls aged 15 years old that received the recommended doses of HPV vaccine (2021) by country. Available at: Link

European Cancer Inequalities Registry. Machines used for treatment with x-rays or radionuclide (2020) by country. Available at: Link

European Cancer Inequalities Registry. Quantity of alcohol consumption (2019) by country. Available at: Link

European Medicines Agency (undated). Data Analysis and Real World Interrogation Network (DARWIN EU). Available at: Link

European Network of Cancer Registries (2024). Major opportunity for all European Cancer Registries: Direct grant to support quality improvement. Available at: Link.

European Parliament and Council of the European Union (2014). Directive 2014/40/EU of the European Parliament and of the Council of 3 April 2014 on the approximation of the laws, regulations and administrative provisions of the Member States concerning the manufacture, presentation and sale of tobacco and related products and repealing Directive 2001/37/EC. Available at: Link

European Parliament (2022). Strengthening Europe in the fight against cancer. Available at: Link

European Parliament (2023). EU AI Act: first regulation on artificial intelligence. Available at: Link

European Parliament (2023). Pollutants in EU waters: Update of chemical substances listed for control. Available at: Link

European Parliament (2024). Revision of the Urban Wastewater Treatment Directive. Available at: Link

European Parliament Legislative train (2023). Proposal for a harmonised mandatory front-of-pack nutrition labelling - Q4 2022. Available at: Link

European Parliament and Council of the European Union (2014). DIRECTIVE 2014/40/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 3 April 2014 on the approximation of the laws, regulations and administrative provisions of the Member States concerning the manufacture, presentation and sale of tobacco and related products and repealing Directive 2001/37/EC. Available at: Link

European Parliament and Council of the European Union (2021). Regulation (EU) 2021/2282 of the European Parliament and of the Council of 15 December 2021 on health technology assessment and amending Directive 2011/24/EU. Available at: Link

European Parliament and Council of the European Union (2022). Directive (EU) 2022/431 of the European Parliament and of the Council of 9 March 2022 amending Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work. Available at: Link

Eurostat (2019). Body mass index. Available at: Link

Eurostat (2019). Time spent on health-enhancing (non-work-related) aerobic physical activity. Available at: Link

Eurostat (2022). Daily smokers of cigarettes. Available at: Link

Eurostat (2022). Frequency of alcohol consumption. Available at: Link

Eurostat (2022). Self-reported last breast examination by X-ray among women by age and educational attainment level. Available at: Link; Eurostat (2022). Self-reported last cervical smear test among women by age and educational attainment level. Available at: Link

Eurostat (2022). Self-reported last colorectal cancer screening test by sex, age and educational attainment level. Available at: Link

Farina et al. (2022). An overview of artificial intelligence in oncology. Available at: Link

Feeney et al. (2022). E-Cigarettes—a review of the evidence—harm versus harm reduction. Available at: Link

GBD 2016 Occupational Carcinogens Collaborators (2020). Global and regional burden of cancer in 2016 arising from occupational exposure to selected carcinogens: a systematic analysis for the Global Burden of Disease Study 2016. Available at: Link

German Cancer Society. Certification. Available at: Link

Global Burden of Disease Collaborative Network (2019). Global Burden of Disease Study. Available at: Link

Hanna et al. (2020). Mortality due to cancer treatment delay: systematic review and meta-analysis. Available at: Link

Harrer (2023). Attention is not all you need: the complicated case of ethically using large language models in healthcare and medicine. Available at: Link

Hejlová et al. (2019). Analysis of presumed IQOS influencer marketing on Instagram in the Czech Republic in 2018–2019. Available at: Link

Heuvelmans et al. (2021). Lung cancer prediction by deep learning to identify benign lung nodules. Available at: Link

Høeg et al. (2019). Follow-up strategies following completion of primary cancer treatment in adult cancer survivors. Available at: Link

Hoffer, A. (2023). Cigarette taxes in Europe. Tax Foundation, 3rd October 2023. Available at: Link

Hofmarcher et al. (2019). Comparator Report on Cancer in Europe 2019 – Disease Burden, Costs and Access to Medicines. Available at: Link

Hopkins et al. (2023). Artificial intelligence chatbots will revolutionize how cancer patients access information: ChatGPT represents a paradigm-shift. available at: Link

I3LUNG. Available at: Link

ICF (2022). SC 2097106, Mapping of pricing policies and fiscal measures applied to food, non-alcoholic and alcoholic beverages. Available at: Link

IDAVA. Available at : Link

IDERHA. Available at: Link

Incisive Project. Available at: Link

Innovative Partnership for Action against Cancer (iPAAC). Available at: Link

Institut National du Cancer. Les unités de coordination et antennes d'oncogériatrie. Available at: Link

Institute for Health Metrics and Evaluation (IHME) (2021). Global Burden of Disease Study 2019. Available at: Link

International Atomic Energy Agency (2023). The IAEA Directory of Radiotherapy Centres (DIRAC). Available at: Link

International Energy Agency (2015). Energy and climate change. World energy outlook special report. Available at: Link

iPAAC (undated). Providing Guideline-Based Oncological Care in CCCNs Through Implementation of Tumour-Specific Patient Pathways using the iPA2-Guide. Available at: Link

IQN Path, ECPC & EFPIA (2021). Unlocking the potential of precision medicine in Europe. Available at: Link

IQVIA and EFPIA (2023). EFPIA Patients W.A.I.T. Indicator 2022 Survey. Available at: Link

Ivashko et al. (2016). Pembrolizumab and nivolumab: PD-1 inhibitors for advanced melanoma. Available at: Link

JRC (2022). Provision of ingredient, energy and full nutrition information on alcoholic beverages. Available at: Link

JRC (2023). Cancer care in times of COVID-19: lessons for future pandemics. Available at: Link

Jung et al. (2021). Recent trends of healthcare information and communication technologies in pediatrics: A systematic review. Available at: Link

Kalisz et al. (2021). The adoption, diffusion, categorical ambiguity trifecta of social robots in e-health – Insights from healthcare professionals. Available at: Link

Kroemer et al. (2013). Immunogenic cell death in cancer therapy. Available at: Link

Kulkov (2021). Navigating uncharted waters: Designing business models for virtual and augmented reality companies in the medical industry. Available at: Link

Lagendijk et al. (2014). The magnetic resonance imaging-linac system. Available at: Link

Lawler et al. (2023). European Groundshot – Addressing Europe's cancer research challenges: A Lancet Oncology Commission. Available at: Link

Levy et al. (2023). Follow the money: a closer look at US tobacco industry marketing expenditures. Available at: Link

Lithuanian Ministry of Health (2005). Order on the approval of the funding programme for early diagnosis of prostate cancer. Available at: Link.

Loomis et al. (2013). The carcinogenity of outdoor pollution. Available at: Link

Mammography-Screening-Programme. Available at: Link.

Maringe et al. (2020). The impact of the COVID-19 pandemic on cancer deaths due to delays in diagnosis in England, UK: a national, population-based, modelling study. Available at: Link

Ministry of Health (2020). National Public Health Action Plan (2021-2025). Available at: Link.

Mojtahedi et all. (2022). Awareness of Obesity-Related Cancers: A Complex Issue. Available at: Link

National Action Plan for reducing inequalities 2014-2023. Available at: Link

National Board of Health and Welfare (2018). Screening för prostatacancer – Rekommendation och bedömningsunderlag. Available at: Link

National Cancer Control Programme, Cancer Prevention. Available at: Link

National Health Information Portal (2022). Rakovina plic: prevence, screeningový program. Available at: Link.

National Institute of Public Health and the Environment (2023). More than two million invitations to get vaccinated against HPV in 2023. Available at: Link.

National Oncology Institute (2023). State of Oncology in Slovakia – Annual Report 2022. Available at: Link

National Public Health Action Plan (2021-2025). Available at: Link

NCCP (2022). Planul Național De Combatere A Cancerului 2023-2026. Available at: Link.

Nindenshuti, P. M., & Caire-Juvera, G. (2023). Changes in diet, physical activity, alcohol consumption, and tobacco use in adults during the COVID-19 pandemic: a systematic review. Available at: Link

Nittari et al. (2019). Fighting obesity in children from European World Health Organization member states. Epidemiological data, medical-social aspects, and prevention programs. Available at: Link

Odani et al. (2023). Heated tobacco products do not help smokers quit or prevent relapse: a longitudinal study in Japan. Available at: Link

OECD (2021). Preventing Harmful Alcohol Use. Available at: Link

OECD (2023). Investing in health systems to protect society and boost the economy: priority investments and order-of-magnitude cost estimates. Available at: Link

OECD (2023). EU Country Cancer Profile: Sweden 2023. Available at: Link

OECD & European Commission (2022). Health at a Glance: Europe 2022. Available at: Link

OECD & WHO (2023). Step Up! Tackling the Burden of Insufficient Physical Activity in Europe. Available at: Link

OECI (2023). The OECI Network – Membership. Available at: Link

Optima. Available at: Link

PASYKAF (2022). Colorectal Cancer Prevention, Early Diagnosis and Treatment Programme. Available at: Link.

Raymond et al. (2020). Impact of the COVID-19 Outbreak on the Management of Patients with Cancer. Available at: Link

Reka Borka Balas et al, (2022). Worldwide Prevalence and Risk Factors of *Helicobacter pylori infection* in Children. Available at: Link

République Française & Institut National du Cancer (2022). Political Declaration and list of actions against cancer recommended by a panel of European stakeholders. Available at: Link

Resolution of the Council and of the Representatives of the Governments of the Member States meeting within the Council on the European Union Work Plan for Sport (1 January 2021-30 June 2024) 2020/C 419/01. Available at: Link

Richter et al. (2019). Understanding Patient Pathways in the Context of Integrated Health Care Services – Implications from a Scoping Review. Available at: Link

Richter et al. (2020). Paving the Way for Patient Pathways: Synthesizing a User-Centered Method Design with Results from a Systematic Literature Review. Available at: Link

Ringborg et al. (2018). European Academy of Cancer Sciences – Designation of Comprehensive Cancer Centres of Excellence. Available at: Link

Ryan et al. (2015). Identifying and describing the impact of cyclone, storm and flood related disasters on treatment management, care and exac- erbations of non-communicable diseases and the implications for public health. Available at: Link

Sahin et al. (2018). Personalized vaccines for cancer immunotherapy. Available at: Link

Scheideler et al. (2018). Awareness of the Link between Alcohol Consumption and Cancer across the World: A Review. Available at: Link

Schwaederle et al. (2015). Impact of precision medicine in diverse cancers: a meta-analysis of Phase II clinical trials. Available at: Link

Seimas of the Republic of Lithuania (2014). National Action Plan for reducing inequalities 2014-2023. Available at: Link.

Service Public (2023). Les pharmaciens peuvent désormais vous prescrire et vous administrer vos vaccins. Available at: Link

Sharrock et al. (2022). Monitoring progress towards elimination of hepatitis B and C in the EU/EEA. Available at: Link

Sipido et al. (2020). Overcoming fragmentation of health research in Europe: lessons from COVID-19. Available at: Link

STA (2023). Prihajajo novi presejalni programmei za raka pljuč in prostate. Available at: Link.

Stanford University (2021). SQ10. What are the most pressing dangers of AI? Available at: Link

Stroffolini et al. (2022). Effectiveness of Hepatitis B Vaccination Campaign in Italy: Towards the Control of HBV Infection for the First Time in a European Country. Available at: Link

Sud et al. (2020). Effect of delays in the 2-week-wait cancer referral pathway during the COVID-19 pandemic on cancer survival in the UK: a modelling study. Available at: Link

Sveriges Riksdag (2022). Försäkringsavtalslag (2005: 104). Available at: Link

TABADO. Available at: Link

Telama (2009). Tracking of physical activity from childhood to adulthood: a review. Available at: Link

The Lancet Oncology (2020). COVID-19: global consequences for oncology. Available at: Link

Tran et al. (2022). The global burden of cancer attributable to risk factors, 2010–19: a systematic analysis for the Global Burden of Disease Study 2019. Available at: Link

Triossi et al. (2022). Disrupting the Tobacco Industry: How Tobacco Companies Seek to Stay in Business. Available at: Link

Trygged (2017). Open comparisons of social services in Sweden – Why, how, and for what?. Available at: Link

UEG (2017). Alcohol consumption putting vast majority of Europeans at risk of digestive cancers, report reveals. Available at: Link

Vaccarella, S., Georges, D., Bray, F., Ginsburg, O., Charvat, H., Martikainen, P., ... & Nusselder, W. (2023). Socioeconomic inequalities in cancer mortality between and within countries in Europe: a population-based study. Available at: Link

Van de Wetering (2015). Prospective derivation of a living organoid biobank of colorectal cancer patients. Available at: Link

Veerus et al. (2021). Human papillomavirus self-sampling for long-term non-attenders in cervical cancer screening: A randomised feasibility study in Estonia. *Journal of Medical Screening,* 29(1). Available at: Link.

Veninga et al. (2021). Tumor organoids: opportunities and challenges to guide precision medicine. Available at: Link

Vintura (2020). Every Day Counts: Improving time to patient access to innovative oncology therapies in Europe. Available at: Link

Vintura (2021). Every day counts: The impact of Covid-19 on patient access to cancer care in Europe. Available at: Link

Vintura (2021). Explaining the diversity of digital health solutions. Available at: Link

Vlachogiannis et al. (2018). Patient-derived organoids model treatment response of metastatic gastrointestinal cancers. Available at: Link

Watts et al. (2015). Health and Climate Change: policy responses to protect public health. Available at: Link

WHO (undated). International Agency for Research on Cancer. Available at: Link

WHO (undated). Global Cancer Observatory. Available at: Link

WHO (2010). WHO Global Code of Practice on the International Recruitment of Health Personnel. Available at: Link

WHO (2018). Fact sheet on alcohol consumption, alcohol-attributable harm and alcohol policy responses in European Union Member States, Norway and Switzerland. Available at: Link

WHO (2019). Status report on alcohol consumption, harm and policy responses in 30 European countries 2019. Available at: Link

WHO (2020). Alcohol and cancer in the who European region: An appeal for better protection. Available at: Link

WHO (2022). Health and care workforce in Europe: time to act. Available at: Link

WHO (2022). Human Papillomavirus (HPV) vaccination coverage. Available at: Link

WHO (2022). WHO European regional obesity report 2022. Available at: Link

WHO (2022). Report on the fifth round of data collection, 2018–2020: WHO European Childhood Obesity Surveillance Initiative (COSI). Available at: Link

WHO (2023). No level of alcohol consumption is safe for our health. Available at: Link

WHO (2023). Technical note on call to action on electronic cigarettes. Available at: Link

WHO (2023). Commercial determinants of health. Available at: Link

Whiting (2020). As the COVID-19 death toll passes 1 million, how does it compare to other major killers?. Available at: Link

Wismar et al. (2022). The European health workforce: building a true labour market for health workers. Available at: Link

World Cancer Research Fund International (2023). MOVING Policy Index. Physical activity policy in 30 European countries. Available at: Link

World Cancer Research Fund International (2023). NOURISHING Policy Index. Nutrition policy status in 30 European countries. Available at: Link

Xoxi et al. (2021). The evolution of AIFA registries to support managed entry agreements for orphan medicinal products in Italy. Available at: Link

Zanetti et al. (2018). To accelerate cancer prevention in Europe: Challenges for cancer registries. Available at: Link

Zhao et al. (2023). Global trends in incidence, death, burden and risk factors of early-onset cancer from 1990 to 2019. Available at: Link

6.2. Annex 2: Analytical framework

Study questions	Sub-questions	Indicators / descriptors	Methods/data sources	Section of the report
Task 1: Future proofing analysis				
1. What recent (since the adoption of the EBCP) and future developments in policy, technology and society can be expected to influence the fight against cancer? How?	1.1 What are the recent and expected future technological developments relevant for fighting cancer? 1.2 What are the recent and expected future political developments relevant for fighting cancer? 1.3 What are the recent and expected future societal developments relevant for fighting cancer? 1.4 What other developments may be relevant for fighting cancer? 1.5 How are the above developments and challenges expected to impact the range of the cancer control pathway?	• Trends in the use of new tools and technologies (e.g. AI, robotics, mRNA) for cancer diagnostic and care • Trends in the use and sharing of electronic health records and health data • Trends in the focus of health policies • Trends in the allocation of public funding to cancer-related policies/programmes • Evolution of public awareness on cancer risk factors • Trends in lifestyle habits (diet, exercise) and consumption of tobacco and alcohol • Trends in occupational risks • Trends in oncology specialisation among healthcare workers, including nursing and physiotherapy • Impacts of these developments on cancer prevention, diagnostic, care and quality of life of cancer patients and survivors	• Desk research (reports and statistics from EU and international organisations, national authorities and stakeholders, academia) • Interviews, survey, focus groups	• 2.3

Study questions	Sub-questions	Indicators / descriptors	Methods/data sources	Section of the report
2. To what extent are the objectives and actions of the EBCP still relevant and coherent in light of the identified developments? What new objectives would be necessary?	2.1 To what extent do the objectives and actions of the EBCP address the new developments relevant to fighting cancer, and what are the gaps? 2.2 To what extent are the objectives and actions of the EBCP coherent? 2.3 What new objectives could be set to address the new developments relevant for fighting cancer?	• Level of coherence of the EBCP objectives and actions • Level of relevance of the EBCP objectives and actions to address the new developments • Gaps in the objectives to address new developments • New objectives to address the new developments	• Desk research (EBCP roadmap, reports from EU and international organisations, national authorities and stakeholders, academia) • Interviews, survey, focus groups	• 2.6.1
3. In light of the identified developments, what actions of the EBCP would need to be strengthened? What new actions could be implemented?	3.1 What actions of the EBCP would need to be strengthened to address the new developments, and how? 3.2 What new actions could be implemented to address the new developments and any identified gaps? 3.3 What actions of the EBCP may no longer be needed or need to change?	• Actions that need to be strengthened • New actions needed • Actions that could be discontinued or changed	• Desk research (EBCP roadmap, reports from EU and international organisations, national authorities and stakeholders, academia) • Interviews, survey, focus groups, workshop	• 2.6.2, 2.6.3
4. In light of the identified developments, what priorities would be the most relevant for the Commission and Member States to boost the fight against cancer?	4.1 Which existing or new objectives of the EBCP should be prioritised in light of the identified developments? 4.2 What actions would be more relevant and effective in light of the identified developments and should be prioritised?	• Objectives that should be achieved in priority • Actions most relevant and effective • Actions that should be completed in priority	• Desk research (EBCP roadmap, reports from EU and international organisations, national authorities and stakeholders, academia) • Interviews, survey, focus groups, workshop	• 2.6.2, 2.6.3
5. What barriers emerged regarding cancer care in the EU and Member States during the COVID-19 pandemic? To which extent and how have these been overcome?	5.1 What barriers and challenges affected cancer care during the COVID-19 pandemic? 5.2 To which extent did they affect the steps of the cancer pathway, and in particular cancer care? 5.3 How were these barriers and challenges addressed, and to which extent were they overturned?	• Challenges from the COVID-19 pandemic affecting cancer care • Type and extent of impact of the COVID-19 challenges on cancer prevention, detection, care and quality of life • Mitigation actions to address these impacts • Extent of mitigation of the challenges	• Desk research (EBCP roadmap, reports from EU and international organisations, national authorities and stakeholders, academia) • Interviews, survey, focus groups	• 2.3.4

Study questions	Sub-questions	Indicators / descriptors	Methods/data sources	Section of the report
6. How could the EBCP be strengthened to react to a possible new pandemic?	6.1 What lessons from the COVID-19 pandemic could be drawn to react to a possible new pandemic? 6.2 How could the EBCP be strengthened to react to a possible new pandemic?	• Best practices that mitigated COVID-19 impacts on cancer fight • New objectives and actions to address any new pandemic	• Desk research (reports from EU and international organisations, national authorities and stakeholders, academia) • Interviews, survey, focus groups	• 2.6.4
Task 2: Country analysis				
7. Which elements are covered by Member States that complement the EU action plan?	7.1 Which national measures complement the objectives and actions of the EBCP? 7.2 In which way do they complement the EBCP?	• National cancer-related policies/programmes/measures • EBCP areas supported by the national measures • EBCP areas gaps complemented by the national measures	• Desk research (EBCP, reports from national authorities and stakeholders) • Survey	• 2.4
8. What cancer policies/programmes do the Member States have that are aligned with EBCP?	8.1 What national cancer policies/programmes are aligned with the EBCP? 8.2 What objectives and actions of the EBCP do they support?	• Level of alignment of national cancer policies/programmes with the EBCP • EBCP objectives and actions supported by the national cancer policies	• Desk research (EBCP, reports from national authorities and stakeholders) • Survey	• 2.4
9. Do Member States have any other policies/programmes which contribute to the objectives of the EBCP?	9.1 What other national policies/programmes (e.g. in the environment, agriculture sectors) contribute to the objectives of the EBCP? 9.2 What objectives and actions of the EBCP do they contribute to support?	• National policies/programmes in other areas (e.g. employment, education, social policy and equality, agriculture, environment, advertising, taxation) contributing to EBCP objectives • National legislations and policies on oncology specialisation (for doctors, nurses and other healthcare professionals) • EBCP objectives and actions supported by these policies	• Desk research (EBCP, reports from national authorities and stakeholders) • Survey	• 2.4

Study questions	Sub-questions	Indicators / descriptors	Methods/data sources	Section of the report
10. What impact did the COVID-19 pandemic have on implementation of these cancer-related policies?	10.1 To what extent did the COVID-19 impact on the implementation of these national cancer-related policies? 10.2 How were these challenges addressed by the Member States?	• Impacts of the COVID-19 pandemic on national cancer policies implementation • Mitigation measures to address these challenges	• Desk research (reports from national authorities and stakeholders) • Survey	• 2.5.4
11. What is the baseline situation in Member States on prevention, early detection, diagnosis and treatment, quality of life?	11.1 What was the situation (in terms of practices and results) on prevention, early detection, diagnosis and treatment, quality of life in the Member States when the EBCP was adopted? 11.2 How was the baseline situation expected to evolve with the implementation of the EBCP? 11.3 To what extent did the situation (in terms of practices and results) on prevention, early detection, diagnosis and treatment, quality of life changed in the Member States since EBCP was adopted?	• Practices and level of prevention, early detection, diagnostic and treatment and quality of life in MS in 2021 • Projections of EBCP results • Evolution of practices and results on prevention, early detection, diagnosis and treatment and quality of life since 2021	• Desk research (EBCP roadmap, reports and statistics from EU and international organisations, national authorities and stakeholders) • Survey	• 2.2
12. Are there any barriers for instance concerning actions which are predominantly under national competence, for implementing the EBCP 4 pillars at national level?	12.1 What are the main national barriers for implementing the EBCP 4 pillars? 12.2 What are the barriers for implementing the national cancer-related actions contributing to the EBCP? 12.3 To what extent did the COVID-19 pandemic impact the implementation of national cancer-related policies and actions?	• Barriers at national level to implement the EBCP 4 pillars • Barriers to implement the national cancer-related policies/programmes • COVID-19 barriers on the implementation of national cancer policies/programmes	• Desk research (reports from national authorities and stakeholders, academia) • Interviews, survey, focus groups	• 2.5

Study questions	Sub-questions	Indicators / descriptors	Methods/data sources	Section of the report
13. Which barriers exist at institutional and clinical level? Which financial and behavioural barriers exist? Which best practices exist to overcome those barriers?	13.1 What are the institutional and policy barriers to the implementation of the national cancer-related policies? 13.2 What are the clinical barriers (e.g. clinical guidelines or practices) to the implementation of the national cancer-related policies? 13.3 What are the financial barriers to the implementation of the national cancer-related policies? 13.4 What are the behavioural barriers (e.g. from healthcare professionals or other stakeholders) to the implementation of the national cancer-related policies? 13.5 Which best practices have been able to overcome those barriers?	• Institutional, clinical, financial and behavioural barriers to the implementation of national cancer-related policies • Existing best practices to overcome these barriers	• Desk research (reports from EU and international organisations, national authorities and stakeholders, academia) • Survey, focus groups	• 2.5
14. Are there any best practices of cancer-related policies/programme(s) in the Member States that can be shared in this study? What are these?	14.1 Are there any national cancer-related policies/programmes particularly relevant for the EBCP and could be shared as best practices? Which ones? 14.2 Are there any national cancer-related policies/programmes particularly effective to achieve the objectives of the EBCP and could be shared as best practices? Which ones?	• Best practice national cancer-related policies/programmes • Level of relevance (alignment) and effectiveness (impacts) of the best practices for the EBCP objectives	• Desk research (reports from EU and international organisations, national authorities and stakeholders) • Interviews, survey, focus groups, workshop	• 2.4, 2.5
15. What further objectives and actions by the European Commission could support, coordinate and complement Member States' efforts to strengthen action against cancer?	15.1 What further objectives could strengthen the EBCP to support, coordinate and complement MS actions against cancer? 15.2 What further actions by the European Commission could support, coordinate and complement MS actions against cancer?	• MS needs for support and coordination • New objectives and actions of the Commission to address MS needs in boosting action against cancer	• Desk research (EBCP, reports from EU and international organisations, national authorities and stakeholders) • Interviews, survey, focus groups, workshop	• 2.5.8

Study questions	Sub-questions	Indicators / descriptors	Methods/data sources	Section of the report
16. What are the areas where to concentrate to build a sound monitoring framework?	16.1 What reporting requirements and indicators exist at national level on cancer-related policies? 16.2 Which areas of the EBCP could be monitored across Member States?	• Existing national reporting requirements, indicators and data sources to measure progress of cancer policies • EBCP areas that could be monitored with comparable indicators across MS • Data gaps and possible new indicators to monitor all EBCP areas	• Desk research (EBCP roadmap, reports and statistics from national authorities and stakeholders, academia) • Survey, focus groups	• 4.2
Task 3: Evaluation of progress				
17. How many Joint Actions (direct grant) through the EU4Health programme in the field of cancer did each Member State apply for and partner/participate in?	17.1 How many Joint Actions (direct grant) in the field of cancer did each Member State apply for through the EU4Health programme? 17.2 How many Joint Actions (direct grant) in the field of cancer did each Member State participate in through the EU4Health programme?	• Total number and names of Joint Actions each MS applied for • Total number and names of Joint Actions each MS participated in	• Desk research (EC Funding & Tender website, reports and statistics from EU organisations, national authorities) • Survey, case studies	• 3.1
18. How many projects (e.g. call for proposals, tenders) under the EU4Health programme, in the field of cancer, have entities from Member States applied for and partnered/participated in?	18.1 How many projects (e.g. calls for proposals, tenders) in the field of cancer have entities from Member States applied for under the EU4Health programme? 18.2 How many projects (e.g. calls for proposals, tenders) in the field of cancer have entities from Member States participated in under the EU4Health programme?	• Total number and names of project each MS entities applied for • Total number and names of project each MS entities participated in	• Desk research (EC Funding & Tender website, TED award notices, reports and statistics from EU organisations, national authorities) • Survey, case studies	• 3.2
19. Are there any barriers for Member States and stakeholders in the funding application process? Any gaps identified in the application process?	19.1 What are the barriers encountered by Member States and stakeholders in the funding application process? 19.2 Are there any gaps identified in the application process?	• Barriers encountered by MS and stakeholders in the funding application process • Gaps in the application process	• Desk research (EC Funding & Tender website, reports from national authorities and stakeholders) • Survey, case studies, focus groups	• 3.3

Study questions	Sub-questions	Indicators / descriptors	Methods/data sources	Section of the report
20. Are there any barriers for Member States and stakeholders in the organisation of the projects? Any gaps identified?	20.1 What are the barriers encountered by Member States and stakeholders in the organisation and implementation of the projects? 20.2 Are there any gaps identified in the organisation and implementation of the projects?	• Barriers encountered by MS and stakeholders in the project organisation • Gaps in the organisation and implementation of projects	• Desk research (EC Funding & Tender website, reports from national authorities and stakeholders) • Survey, case studies, focus groups	• 3.4
21. Are there any barriers that applicants or participants/partners may have in the EU4Health funding process that will prevent achieving the objectives of EBCP?	21.1 Are there any other barriers experienced in the EU4Health funding process by applicants and participants? 21.2 To what extent do these barriers affect the achieving of the objectives of the EBCP?	• Other barriers encountered by applicants and participants in the EU4Health funding process • Impact of these barriers on achieving the EBCP objectives	• Desk research (EC Funding & Tender website, reports from national authorities and stakeholders) • Case studies, focus groups, workshop	• 3.3, 3.4
22. Can potential recommendations and suggestions for remedial actions be made taking into account the existing EU4Health Regulation?	22.1 What remedial actions could be taken to address the issues with the EU4Health funding application process, within the EU4Health Regulation? 22.2 What remedial actions could be taken to address the issues with the organisation and implementation of the EU4Health funded projects and Joint Actions, within the EU4Health Regulation?	• Remedial actions to address the issues with the funding application process • Remedial actions to address the issues with the organisation and implementation of actions and projects	• Desk research (EU4Health Regulation and website, reports from national authorities and stakeholders) • Case studies, focus groups, workshop	• 3.3, 3.4
Task 4: Monitoring framework				
23. Which indicators and data sources are available to measure the progress of the EBCP? Which indicators and data sources are missing?	23.1 What are the existing indicators and data sources to measure the EBCP progress, at EU and national level? 23.2 What indicators and data sources are missing to measure the progress of the EBCP?	• Existing EU and national indicators and data sources to measure EBCP progress • EBCP areas not covered by existing indicators and data • New indicators and data needed to measure EBCP progress	• Desk research (EBCP roadmap, reports and statistics from national authorities and stakeholders, academia) • Interviews, survey	• 4.2, 4.3

Study questions	Sub-questions	Indicators / descriptors	Methods/data sources	Section of the report
24. What are the indicators needed to monitor the progress of the EBCP?	24.1 What indicators are needed to monitor the progress of the EBCP at EU level? 24.2 What indicators are needed to monitor the progress of the EBCP at national level?	• Indicators needed to monitor EBCP progress at EU level • Indicators needed to monitor EBCP progress at national level	• Desk research (EBCP roadmap, reports and statistics from national authorities and stakeholders, academia) • Interviews, focus groups	• 4.2, 4.3, 4.4
25. To what extent are the indicators and data available at Member State level comparable? What provisions should be in place to collect smoothly, timely and regularly the necessary high-quality data?	25.1 To what extent are the indicators and data available at MS level comparable in terms of scope, sources and frequency? 25.2 What provisions (e.g. reporting or data collection requirements) would be necessary to collect smoothly, timely and regularly the necessary high-quality data to monitor the progress of the EBCP?	• Level of comparability of national indicators and data sources • Provisions needed to collect the needed indicators in a comparable and timely way	• Desk research (EBCP roadmap, reports and statistics from national authorities and stakeholders, academia) • Interviews, focus groups, workshop	• 4.2, 4.3, 4.4, 4.5

6.3. Annex 3: List of stakeholders interviewed under Task 1

Stakeholder Group	Number of organisations interviewed
European institutions	5
International organisations	2
Civil society organisations (public health NGOs)	5
Civil society organisations (patient associations)	3
Civil society organisations (non-profit research organisation)	1
Health professionals associations	12
Pharmaceutical or health technology industry associations	5
Health technology companies	5
Pharmaceutical companies	7
Experts from Cancer Mission Board	5
Academia	5
Other stakeholder from the Cancer stakeholder contact group	1
TOTAL	**56**

6.4. Annex 4: Responses to the online survey under Task 2

Country	CSO	Health Professional	Industry	National Authority	Total
Austria	0	0	0	1	**1**
Belgium	2	1	1	1	**5**
Bulgaria	3	1	0	0	**4**
Croatia	0	2	4	0	**6**
Croatia	1	0	0	0	**1**
Cyprus	1	0	0	0	**1**
Czechia	0	0	0	0	**0**
Denmark	0	2	1	0	**3**
Estonia	1	0	0	3	**4**
Finland	1	0	0	0	**1**
France	1	0	0	1	**2**
Germany	1	0	2	1	**4**
Greece	3	1	0	0	**4**
Hungary	0	1	0	0	**1**
Iceland	1	0	0	1	**2**
Ireland	0	0	0	1	**1**
Italy	0	3	0	1	**4**
Latvia	0	1	0	1	**2**
Lithuania	3	0	0	2	**5**
Luxembourg	0	0	0	1	**1**
Malta	1	0	0	1	**2**
Netherlands	0	1	0	2	**3**
Norway	0	0	0	0	**0**
Poland	1	0	0	1	**2**
Portugal	2	3	0	2	**7**
Romania	2	0	1	0	**3**
Slovakia	0	0	0	2	**2**
Slovenia	0	2	0	0	**2**
Spain	1	2	0	2	**5**
Sweden	2	1	0	1	**4**
Total	**27**	**21**	**9**	**25**	**82**

6.5. Annex 5: Country factsheets

The country factsheets for the 27 EU Member States, Iceland and Norway, are attached separately. They can be found via this link:
https://data.europa.eu/doi/10.2925/1936177

6.6. Annex 6: Case studies

The four case studies conducted on joint actions, project grants and tenders funded by the EU4Health Programme over the four pillars of the EBCP are attached separately. They can be found via this link: https://data.europa.eu/doi/10.2925/1276328

6.7. Annex 7: Monitoring Framework

The table below presents the full monitoring framework for the EBCP with indicators for all actions. Each action of the plan is monitored by at least one indicator. Orange cells refer to output indicators, blue cells to result indicators and pink cells refer to impact metrics. The column titled “availability” indicates whether the indicator already exists (in which case we provide the link to the exact data source) or whether it is not available yet. The latter case comprehends cases in which: (i) the identified data source has not been published yet (e.g. future evaluation reports); (ii) the identified data source is already published but the information required to compute the indicator needs to be manually retrieved (e.g. extract the number of MS complying with the legislation based on the findings of an evaluation report).

Table 10. Output and Results Indicators

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
New technologies, research and innovation at the service of patient-centred cancer prevention and care								
Create a "Knowledge Centre on Cancer"	Launch of the Knowledge Centre on Cancer	Output	This indicator informs on the successful implementation of the Knowledge Centre on Cancer (KCC)	Qualitative	European Commission	https://knowledge4policy.ec.europa.eu/cancer/about_en	2020	Not Applicable
Create a "Knowledge Centre on Cancer"	Number of delivered guidelines for cancer prevention, screening, diagnosis and care	Result	This indicator informs on the capacity of the KCC to disseminate guidelines for cancer prevention, screening, diagnosis and care, one of the key objectives of the initiative.	Count	EC Knowledge4Policy Platform	https://knowledge4policy.ec.europa.eu/search_en?search_api_fulltext=cancer	Not applicable	Not Applicable
Create a "Knowledge Centre on Cancer"	Frequency of data releases on cancer trends	Result	This indicator informs on the capacity of the KCC to represent a data hub on topics related to cancer	Categorical	European Cancer Inequalities Registry (ECIR)	https://cancer-inequalities.jrc.ec.europa.eu/	Not applicable	Not Applicable
Launch the "European Cancer Imaging Initiative"	Release of the platform	Output	This indicator informs on the release of the platform and digital infrastructure of the European Cancer Imaging Initiative	Qualitative	European Commission	https://digital-strategy.ec.europa.eu/en/policies/cancer-imaging	First version of the platform to be released by the end of 2024, final release in 2025 and digital infrastructure fully operational and running in 2026.	Not Applicable
Launch the "European Cancer Imaging Initiative"	Number and geographical coverage of data providers	Output	This indicator informs on the number of clinical sites providing data to the EUCAIM and the countries in which they are based.	Count	Public Deliverables and reports of the European Federation for Cancer Images	https://cancerimage.eu/sitemap/	At least 30 distributed data providers from 15 countries by the end of the project (2026)	12 countries and 21 clinical sites
Launch the "European Cancer Imaging Initiative"	Number of cases available in the dataset	Result	This indicator provides information on the number anonymized images of common and rare cancers included in the dataset	Count	Public Deliverables and reports of the European Federation for Cancer Images	To be computed from the data source	At least 100,000 cases	Not Applicable

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
Launch the "European Cancer Imaging Initiative"	Number of AI tools and clinical prediction models	Result	This indicator measures the number of AI algorithms, AI tools and clinical prediction models for researchers	Count	Public Deliverables and reports of the European Federation for Cancer Images	To be computed from the data source	At least 50 algorithms, tools, models	Not Applicable
European Health Data Space (EHDS)	Adoption of the Commission Proposal	Output	This indicator informs on the timely adoption of the Commission proposal for a regulation creating a EHDS	Qualitative	European Commission	https://health.ec.europa.eu/ehealth-digital-health-and-care/european-health-data-space_en	2022	Not Applicable
European Health Data Space (EHDS)	Number of countries participating in the sharing of health data	Result	By listing the countries that participate to the EHDS, this indicator informs on the potential number of general practitioners, specialists and patients that could have access to cross-border health data.	Count	European Commission	To be computed from the data source	27	Not Applicable
European Health Data Space (EHDS)	Number of data banks connected for primary and secondary data use	Result	This indicator informs on the number of national health records connected through the EHDS for primary and secondary data use	Count	Reporting of national health authorities	To be computed from the data source	Not Applicable	Not Applicable
European Health Data Space (EHDS)	Number of researchers/ policy makers using the EHDS	Result	This indicator informs on the degree of secondary use of health data through the EHDS	Count	Reporting of national health authorities	To be computed from the data source	Not Applicable	Not Applicable
European Health Data Space (EHDS)	Number of patients opting out of the data sharing system	Result	The Council position on the Commission proposal establishes the right for patients to opt-out for primary and secondary use from the data sharing system. This indicator measures the number of patients that exercise this right.	Count	Reporting of national health authorities	To be computed from the data source	Not Applicable	Not Applicable
European Virtual Human Twin (VHT)	Creation of a cloud-based repository of	Output	The Europe Digital Innovation Hubs Network (EDITH) has the objective to develop a federated	Qualitative	EDITH Virtual Human Twin (VHT)	https://www.edith-csa.eu/edith/	Not applicable	Not Applicable

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
	digital twins in healthcare.		and cloud-based repository of digital twins (data, models, algorithms, and good practices) in healthcare. This indicator informs on the development of the repository.					
European Virtual Human Twin (VHT)	Number of digital twins in the repository	Result	Digital twins are patient-specific virtual representation of real-world systems or processes, built on data-driven or knowledge-driven - most often a combination of both - predictive computer models, and that can be used as a clinical decision-support system, a personal health forecasting tool or as a tool for the development and personalisation of medical products. This indicator informs on the number of digital twins in the established repository.	Count	EDITH Virtual Human Twin (VHT)	To be computed from the data source	Not applicable	Not Applicable
Expand the European Cancer Information System	Number of new indicators introduced	Result	The EBCP sets out the objective of expanding the European Cancer information System to include new indicators, including metrics detailed by cancer staging and a new metrics on childhood cancers.	Count	ECIS	To be computed from the data source	New metrics on childhood cancers, new indicators detailed by cancer staging	Not Applicable
Launch Horizon Europe partnerships: Innovative Health Initiative (IHI)	Number of cancer related projects under the Innovative Health Initiative	Result	This indicator aims at measuring the number of projects related to cancer implemented under the innovative health initiative	Count	IHI Statistics	https://www.ihi.europa.eu	Not applicable	Not Applicable
Launch Horizon Europe partnerships: Partnership on Transforming Health and	Number of successful proposals	Result	This indicator informs on the number of successful proposals under the THCS	Count	THCS Statistics	To be computed from the data source	Not applicable	Not Applicable

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
Care Systems (THCS)								
Saving lives through sustainable cancer prevention								
Eliminate cancers caused by HPV.	Adoption of the Council Recommendation on vaccine preventable cancers.	Output	As part of the EBCP, the Commission aims at introducing recommendations to increase the uptake of HPV vaccinations in the EU MS. This indicator informs on the adoption of the Recommendation on vaccine preventable cancers.	Categorical	European Commission	https://www.europarl.europa.eu/legislative-train/spotlight-JD%2023-24/file-council-recommendation-on-vaccine-preventable-cancers#:~:text=In%20its%20work%20programme%20for,in%202023%20(third%20quarter).	Not applicable	Proposal for a Council Recommendation on vaccine preventable cancers adopted in 2024.
Eliminate cancers caused by HPV	The number of EU Members having reached at least 90 % coverage for a full vaccination course (last dose) in eligible girls.	Result	This indicator informs on the vaccination coverage of the EU MS.	Count	WHO, European Centre for Disease Prevention and Control	https://immunizationdata.who.int/global/wiise-detail-page/human-papillomavirus-(hpv)-vaccination-coverage	Not applicable	Current number of countries
Update and boost implementation of European Code Against Cancer	Timely revision and update of the ECAC5	Output	ECAC5 will be the latest (5th) revision of the Code, integrating the emerging scientific evidence of the past decade and including policy recommendations.	Categorical	International Agency for Research on Cancer	https://cancer-code-world.iarc.who.int/ecac/	The project is expected to end in June 2026.	ECAC4
Update and boost implementation of European Code Against Cancer	Share of EU population aware of the ECAC, by country, gender, residency	Result	This indicator informs on the degree of public awareness of the ECAC, including hard-to-reach populations (e.g. residency).	Percentage	Impact evaluation study	To be retrieved from the data source	Not applicable	The 2017 Evaluation Study of the ECAC indicates that only 13% of the EU population is

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
								aware of the ECAC
Update and boost implementation of European Code Against Cancer	Launch of the EU Mobile App for Cancer Prevention	Output	This indicator provides information on the successful implementation of the EU Mobile App for Cancer Prevention.	Categorical	Boosting the Usability of the EU Mobile App for Cancer Prevention (BUMPER) website	https://health.ec.europa.eu/non-communicable-diseases/cancer/europes-beating-cancer-plan-eu4health-financed-projects/projects/bumper_en	2024	Not Applicable
Update and boost implementation of European Code Against Cancer	Number of users of the EU Mobile App for Cancer Prevention	Result	This indicator informs on the number of different types of users of the App, disaggregated by country, age, sex, socio-economic status.	Count	BUMPER Website	To be retrieved from the data source	Not applicable	Not Applicable
Update and boost implementation of European Code Against Cancer	Launch of a project to increase health literacy for Cancer Prevention and Care	Output	The 'Health Literacy for Cancer Prevention and Care' aims at promoting activities that develop and share best practices to strengthen health literacy in cancer prevention and care programmes, with a focus on disadvantaged groups. This indicator informs on the initiatives financed through Project Grants to improve health literacy in the EU.	Qualitative	European Commission	https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/eu4h-2021-pj-18	Project funded by 2025	Not Applicable
"Health Literacy for Cancer Prevention and Care project"	Number of best practices identified, collected and shared	Result	This indicator informs on the specific impacts of the health literacy initiative. It is included among the reporting requirements specified by the call for proposals.	Count	Reporting activities of successful applicants	To be retrieved from the data source	Not Applicable	Not Applicable
"Health Literacy for Cancer Prevention	Estimated number of people reached by country,	Result	This indicator informs on the specific impacts of the health literacy initiative. It is included among the reporting	Count	Reporting activities of successful applicants	To be retrieved from the data source	Not Applicable	Not Applicable

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
and Care project"	gender, education, income level		requirements specified by the call for proposals.					
Create a Tobacco Free Generation by Reviewing the Tobacco Products Directive (TPD)	Adoption of the Commission Proposal	Output	This indicator informs on the year of adoption of the Commission proposal for a revision of the TPD	Qualitative	The Official Journal of the European Union	To be retrieved from the data source	TBC	TPD (2014/40/EU)
Create a Tobacco Free Generation by reviewing the Tobacco Products Directive (TPD)	Implementation of the Commission Proposal	Result	This indicator informs on the degree to which actions were taken by the MS to comply with the new legislation.	Qualitative	European Commission Implementation Reports	To be retrieved from the data source	All MS	Current national framework under the TPD
Create a Tobacco Free Generation by reviewing of Tobacco Taxation Directive	Adoption of the Commission Proposal	Output	This indicator informs on the year of adoption of the Commission proposal for a revision of the TTD	Qualitative	The Official Journal of the European Union	To be retrieved from the data source	TBC	TTD (2011/64/EU)
Create a Tobacco Free Generation by reviewing of Tobacco Taxation Directive	Implementation of the Commission Proposal	Result	This indicator informs on the degree to which actions were taken by the MS to comply with the new legislation.	Qualitative	European Commission Implementation Reports	To be computed from the data source	All MS	Current national excise rules on tobacco and nicotine products
Create a Tobacco Free Generation by reviewing the legal framework on cross-border purchases of	Adoption of the Commission Proposal	Output	This indicator informs on the year of adoption of the Commission proposal on cross-border purchases of tobacco by private individuals	Qualitative	The Official Journal of the European Union	To be computed from the data source	TBC	Current rules on excise duty (2020/26/EU)

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
tobacco by private individuals								
Create a Tobacco Free Generation by reviewing the legal framework on cross-border purchases of tobacco by private individuals	Implementation of the new legislation	Result	This indicator informs on the degree to which actions were taken by the MS to comply with the new legislation.	Qualitative	European Commission Implementation Reports	To be retrieved from the data source	All MS	Current national rules on excise duty
Create a Tobacco Free Generation by updating the Council Recommendation on smoke-free environments	Adoption of the Commission Recommendation	Output	This indicator informs on the year of adoption of the Commission proposal on smoke-free environments	Qualitative	The Official Journal of the European Union	To be retrieved from the data source	TBC	Council Recommendation of *30 November 2009* on smoke-free environments
Create a Tobacco Free Generation by supporting MS in full implementation of the Framework Convention on Tobacco Control	Number of EU countries that have implemented tax policies and prices policies on tobacco and nicotine products	Result	This indicator classifies UE countries based on the rates applied to tobacco and nicotine products.	Categorical	European Commission Excise Duties Statistics	To be retrieved from the data source	EU guideline values as minimum	Current tax policies on tobacco and nicotine products by country
Create a Tobacco Free Generation by supporting MS in full implementation of the Framework	List of EU countries by allowed quantities of tobacco products when (i) travelling between EU	Result	This indicator informs on the limits applied in each EU country to travellers purchasing tobacco and nicotine products	Categorical	Reporting on the implementation of the Convention	To be retrieved from the data source	EU guideline values as minimum	Current national rules

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
Convention on Tobacco Control	countries, (ii) entering in the EU from a non-EU country							
Create a Tobacco Free Generation by supporting MS in full implementation of the Framework Convention on Tobacco Control	Number of countries banning completely tobacco smoking in indoor workplaces, public transport, indoor public places	Result	This indicator informs on the status of the national smoke-free regulations in the EU Member States	Categorical	Reporting on the implementation of the Convention	To be retrieved from the data source	Not applicable	Current national rules on smoke-free environment
Create a Tobacco Free Generation by supporting MS in full implementation of the Framework Convention on Tobacco Control	Number of countries that have adopted measures requiring plain standardised packaging	Result	This indicator informs on the number of EU countries that have implemented plain standardised packaging on tobacco and nicotine products	Categorical	Reporting on the implementation of the Convention	To be retrieved from the data source	Not applicable	Current national rules on tobacco packaging
Create a Tobacco Free Generation by supporting MS in full implementation of the Framework Convention on Tobacco Control	Number of countries that have adopted and implemented educational and public awareness programmes	Result	As in the indicator description	Categorical	Reporting on the implementation of the Convention	To be retrieved from the data source	Not applicable	Current national measures on awareness and education
Review of EU legislation on	Adoption of the	Output	This indicator informs on the year of adoption of the	Qualitative	The Official Journal of the European Union	To be retrieved from the data source	TBC	Current rules under the Council

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
taxation of alcohol	Commission Proposal		Commission proposal on alcohol taxation					Directive 92/84/EEC and 2020/1151
Review of EU legislation on taxation of alcohol	Implementation of the new legislation	Result	This indicator informs on the degree to which actions were taken by the MS to comply with the new legislation.	Qualitative	European Commission Implementation Reports	To be retrieved from the data source	All MS	Current national excise duties on alcohol and alcoholic beverages
Review of legal framework on cross-border purchases of alcohol by private individuals	Adoption of the Commission Proposal	Output	This indicator informs on the year of adoption of the Commission proposal on cross-border purchases of alcohol by private individuals	Qualitative	The Official Journal of the European Union	To be retrieved from the data source	TBC	Current tax rules
Review of legal framework on cross-border purchases of alcohol by private individuals	Implementation of the new legislation	Result	This indicator informs on the degree to which actions were taken by the MS to comply with the new legislation.	Qualitative	European Commission Implementation Reports	To be retrieved from the data source	Not Applicable	Current tax rules of the MS
New labelling rules for wine sector and aromatised wine products	Year of entry into force of the new rules	Output	This indicator informs of the year of entry into force of the new rules on labelling of ingredients and nutritional values of wine and aromatised wine products	Qualitative	The Official Journal of the European Union	https://agriculture.ec.europa.eu/news/new-rules-wine-labelling-enter-application-2023-12-07_en	2023	Not Applicable
Proposal for mandatory labelling of the list of ingredients and nutrition declaration on wine	Implementation of the new legislation	Result	This indicator informs on the degree to which actions were taken by the MS to comply with the new legislation.	Qualitative	European Commission Implementation Reports	To be retrieved from the data source	All MS	Current national frameworks

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
Proposal for health warnings on alcohol beverage products	Adoption of the Commission Proposal	Output	Commission proposal adopted	Qualitative	The Official Journal of the European Union	To be retrieved from the data source	TBC	Not Applicable
Proposal for health warnings on alcohol beverage products	Implementation of the new legislation	Result	This indicator informs on the degree to which actions were taken by the MS to comply with the new legislation.	Qualitative	European Commission Implementation Reports	To be retrieved from the data source	All MS	Current national frameworks
Monitor the implementation of audiovisual media service directive on commercial communications for alcoholic beverages	Number and publication year of research reports on the implementation of the revised Audiovisual Media Services Directive	Output	This indicator aims at assessing the extent to which the Commission is closely monitoring the implementation of the Audio-visual Media Service Directive	Count	European Commission	https://digital-strategy.ec.europa.eu/en/library/commission-report-application-audiovisual-media-services-directive	2022 for the 1st Implementation Report, 2025 for the 2nd Implementation Report	Not Applicable
Evaluation of the 2014-2020 EU Action Plan on Childhood Obesity and propose follow-up actions	Timely publication of the evaluation of the 2014-2020 EU Action Plan on Childhood Obesity	Output	This indicator informs on the successful implementation of the evaluation of the 2013-2020 EU Action Plan on Childhood Obesity	Qualitative	European Commission	To be retrieved from the data sources	2024	Not Applicable
Evaluation of the 2014-2020 EU Action Plan on Childhood Obesity and propose	Follow-up actions proposed and adopted	Output	This indicator informs on the follow-up actions identified and eventually implemented to support the EU Action Plan on Childhood Obesity	Qualitative	European Commission	To be retrieved from the data sources	Commission decision on next steps by 2025	2014-2020 EU Action Plan on Childhood Obesity

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
follow-up actions								
Review of EU school fruit, vegetables and milk scheme	Adoption of the Commission Proposal	Output	This indicator informs on the year of adoption of the Commission proposal on the review of the EU school fruit, vegetables and milk scheme.	Qualitative	The Official Journal of the European Union	https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12971-Review-of-the-EU-school-fruit-vegetables-and-milk-scheme-EU-aid_en	2024	Current rules under the EU school fruit, vegetables and milk scheme
EU school fruit, vegetables and milk scheme	Number of children participating to the scheme	Output	This indicator measures the number of children participating to the EU school scheme.	Count	European Commission	https://agriculture.ec.europa.eu/common-agricultural-policy/market-measures/school-fruit-vegetables-and-milk-scheme/school-scheme-explained_en	Not Applicable	17.5million children participated in at the EU level in school year 2020/21[325]
Propose harmonised mandatory front- of-pack nutrition labelling	Adoption of the Commission Proposal	Output	This indicator informs on the year of adoption of the Commission proposal on a harmonised mandatory front-of-pack nutrition labelling	Qualitative	European Commission	https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12749-Food-labelling-revision-of-rules-on-information-provided-to-consumers_en	2022	Not Applicable
Report on implementation of the Audiovisual Media	Timely publication of the Report	Output	This indicator informs on the timely publication of the Report on the implementation of the revised Audiovisual Media Services Directive	Qualitative	European Commission	https://digital-strategy.ec.europa.eu/en/library/commission-report-application-	Report to be published in 2022	Not Applicable

[325] European Commission. School scheme explained. Available at: Link

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
Services Directive						audiovisual-media-services-directive		
Guidance for codes of practice on reducing unhealthy food marketing to children	Year of implementation of the guidance	Output	This indicator informs on the finalisation of the technical guidance for implementing food marketing Codes of Practice	Qualitative	Best-ReMaP website	https://bestremap.eu/	2023	Not Applicable
Study on fiscal measures and pricing policies on sugars, soft drinks and alcoholic beverages	Timely publication of the study	Output	This indicator informs on the completion of the study	Qualitative	European Commission	https://op.europa.eu/en/publication-detail/-/publication/e9ec2659-063e-11ed-acce-01aa75ed71a1	2022	Study completed in 2022
Review of the promotion policy for agricultural products	Commission implementing decision on the promotion policy for agricultural products	Output	This indicator informs on the timely adoption of the Commission proposal	Qualitative	European Commission	https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12782-EU-farm-and-food-products-review-of-policy-on-promotion-inside-and-outside-the-EU_en	To be decided in accordance with the Commission work programme	Current promotion policy or agriculture products
Reduction of the presence of carcinogenic contaminants in food	Number of new rules adopted by the Commission to lower the presence of carcinogenic contaminants in food products	Output	This indicator informs on the number of new rules introduced by the commission to limit or remove the carcinogenic risk associated to chemical in foods. These include initiatives aimed at increasing prior established maximum limits.	Count	European Commission	https://food.ec.europa.eu/safety/chemical-safety/contaminants_en	Not Applicable	Current rules on carcinogenic food contaminants
Reduction of the presence of carcinogenic	Number of carcinogenic food contaminants	Result	This indicator informs on the number of carcinogenic food contaminants for which maximum levels exist	Count	Regulation (EU) 2023/915 on maximum levels for certain	To be retrieved from the data source	Not Applicable	Current number of carcinogenic food

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
contaminants in food	for which maximum levels exist				contaminants in food			contaminants for which maximum level exist
HealthyLifestyle4All initiative	Number of pledges	Result	This indicator measures the number of organisations or institutions making pledges to implement a healthy lifestyle initiative, activity or campaign	Count	EC sports website	https://sport.ec.europa.eu/healthylifestyle4all/pledge-board	Not Applicable	Not Applicable
Volunteering Projects including volunteering teams in high priority areas, solidarity projects under the European Solidarity Corps Programme	Number of projects funded under the health priority	Output	Volunteering teams in high priority areas are large scale, high impact projects supporting voluntary activities carried out by young people. This indicator measures the number of projects funded under the "prevention, promotion and support in the field of health"	"Volunteering teams in high priority areas are large scale, high impact projects supporting voluntary activities carried out by young people. This indicator measures the number of projects funded under the "prevention, promotion and support in the field of health"	European Commission	To be retrieved from the data source	Not Applicable	Not Applicable
Align EU's air quality standards more closely with WHO guidelines as part of the zero-pollution ambition in the European Green Deal	Adoption of the Commission Proposal	Output	This indicator informs on the timely adoption of the Commission proposal	Once	European Commission	https://ec.europa.eu/commission/presscorner/detail/en/ip_22_6278	Proposal adopted in 2022	EU's air quality standards

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
Align EU's air quality standards more closely with WHO guidelines as part of the zero-pollution ambition in the European Green Deal	Implementation of the new legislation	Result	This indicator informs on the degree to which actions were taken by the MS to comply with the new legislation	Qualitative	European Commission	To be retrieved from the data source	All MS apply WHO guidelines standards	Current national frameworks
Align EU's air quality standards more closely with WHO guidelines as part of the zero-pollution ambition in the European Green Deal	Number of air-polluting substances for which limits are reduced in the Council text	Output	This indicator lists the number of air-pollutant substances for which the limits were reduced and brought closer to the WHO guidelines	Qualitative	Council legislative proposal	To be retrieved from the data source	WHO guidelines	Current limits on air-polluting substances
Pollutant lists & corresponding regulatory standards updated in Environmental Quality Standards, Groundwater and Water Framework Directives limiting carcinogenic pollutants	Adoption of the Commission Proposal	Output	This indicator informs on the timely adoption of the Commission proposal	Qualitative	European Commission	https://environment.ec.europa.eu/publications/proposal-amending-water-directives_en	2022	Current framework
Pollutant lists & corresponding regulatory	Number of new surface-water and groundwater	Output	This indicator lists the number of new surface-water and groundwater pollutants that need to be monitored and controlled	Count	European Commission	https://environment.ec.europa.eu/publications/proposal-	Not applicable	Current list of pollutants in the Water

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
standards updated in Environmental Quality Standards, Groundwater and Water Framework Directives limiting carcinogenic pollutants	pollutants introduced for monitoring and controlling		for the purpose of protection of the EU freshwater bodies			amending-water-directives_en		Framework Directive
Pollutant lists & corresponding regulatory standards updated in Environmental Quality Standards, Groundwater and Water Framework Directives limiting carcinogenic pollutants	Implementation of the new legislation	Result	This indicator informs on the degree to which actions were taken by the MS to comply with the new Framework	Qualitative	European Commission	To be retrieved from the data source	All MS apply new standards	Current national frameworks
Explore removal of carcinogenic chemicals in revision of Urban Wastewater Treatment Directive (UWWTD)	Adoption of the Commission Proposal	Output	This indicator informs on the timely adoption of the Commission proposal	Qualitative	European Commission	https://environment.ec.europa.eu/publications/proposal-revised-urban-wastewater-treatment-directive_en	2022	UWWTD
Explore removal of carcinogenic chemicals in	Implementation of the new legislation	Result	This indicator informs on the degree to which actions were taken by the MS to comply with the new legislation	Qualitative	European Commission	To be retrieved from the data source	All MS	Current national frameworks

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
revision of Urban Wastewater Treatment Directive (UWWTD)								
Explore removal of carcinogenic chemicals in revision of Urban Wastewater Treatment Directive	Lists of carcinogenic chemicals for which new limits were introduced or lowered	Output	This indicator informs on the extent to which the Directive addresses carcinogenic pathogens contained in wastewaters	Qualitative	European Commission	https://environment.ec.europa.eu/publications/proposal-revised-urban-wastewater-treatment-directive_en	Not applicable	Current list of carcinogenic chemicals and related limits
Explore removal of carcinogenic chemicals in revision of Urban Wastewater Treatment Directive	Proportion of urban wastewater that meets all requirements of the UWWTD in compliant urban areas	Result	This indicator informs on the degree of implementation of the UWWTD by monitoring the compliance rate in each country.	Percentage	WISE-Freshwater	https://water.europa.eu/freshwater/countries/uwwt (To be retrieved from the country profiles)	100% in each country	Current national frameworks
Measures towards zero-emission mobility and reducing environmental pollution from transport under the Sustainable and Smart Mobility Strategy	Number of measures implemented	Output	This indicator informs on the number of measures towards zero-emission mobility based on the revision of environmental standards in the mobility space	Count	European Commission	To be retrieved from the data source	Not Applicable	Current measures
New EU Strategic Framework on safety and	Adoption of the Strategic Framework	Output	This indicator informs on the timely adoption of the Framework, which defined priorities and actions for	Qualitative	European Commission	https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021DC0323&qid=162	2021	Current strategic framework

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
health at work 2021-2027			improving workers' health and safety.			6089672913#PP1Contents		
New EU Strategic Framework on safety and health at work 2021-2027	Number of priorities to protect workers from carcinogenic substances	Output	This indicator informs on the number of priorities proposed to strengthen workers' protection from carcinogenic and mutagenic substances and reduce work-related deaths attributable to cancer.	Count	European Commission Strategic Framework on safety and health at work 2021-2027	https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021DC0323&qid=1626089672913#PP1Contents	Not applicable	Not Applicable
Reduce workers' exposure to carcinogenic substances through the amendments of the Carcinogens and Mutagens Directive	Adoption of the Commission Directive	Output	This indicator informs on the year of adoption of the Commission's proposal for a revision of Directive 2004/37/EC	Qualitative	The Official Journal of the European Union	https://www.europarl.europa.eu/legislative-train/theme-promoting-our-european-way-of-life/file-new-legislative-files	Adoption of the proposal by 2022	Carcinogens and Mutagens Directive
Reduce workers' exposure to carcinogenic substances through the amendments of the Carcinogens and Mutagens Directive	Implementation of the Directive 2004/37/EC of the European Parliament and of the Council in the EU MS	Result	This result indicator informs on the number of MS complying with the amendments to the Directive	Count	European Commission	To be retrieved from the data source	All MS	Current national frameworks
Revise EU limits for asbestos to further reduce workers' exposure	Adoption of the Commission Proposal	Output	This progress indicator informs on the adoption of the Commissions' proposal to update the EU Directive on asbestos at work	Qualitative	The Official Journal of the European Union	https://www.consilium.europa.eu/en/press/press-releases/2023/10/23/protection-from-asbestos-at-work-council-votes-to-reduce-exposure-limits/	Proposal adopted in 2023	Current EU limits for asbestos

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
Revise EU limits for asbestos to further reduce workers' exposure	Implementation of the European Parliament and Council Directive in the EU MS	Result	This result indicator informs on the number of MS complying with the amendments to the Directive	Count	European Commission	To be retrieved from the data source	All MS	Current national frameworks
Survey on exposure of workers to risk factors for cancer	Completion year of the survey and year of publication of the results	Output	This indicator informs on the successful implementation of the survey and publication of the results	Qualitative	EU-OSHA Publications	https://osha.europa.eu/en/publications/worker-survey-exposure-cancer-risk-factors	2023	Not Applicable
Implementation of Council Directive on protection from ionising radiation	Study on radon action plans in EU MS and the UK published	Output	This indicator informs on the completion of the review and evaluation of national radon action plans established in EU MS according to the Directive	Qualitative	European Commission	To be retrieved from the data source	2024	Not Applicable
Implementation of Council Directive on protection from ionising radiation	Number of EU countries that have approved a national radon action plan	Result	This indicator informs on the status of national radon action plans in the EU MS, distinguishing between countries where the plan has been approved, countries that only have a draft document and countries with no dedicated plan.	Categorical	Study on radon action plans in EU MS and the UK published	To be retrieved from the data source	27 EU MS	Not Applicable
Explore measures to prevent exposure to ultraviolet radiation including from sunbed	Commission adoption	Output	This indicator informs on the adoption of an initiative from the Commission.	Qualitative	European Commission	To be retrieved from the data source	2024	Not Applicable
Launch Horizon Europe Partnership on Assessment of	Number of partners	Result	This indicator aims at assessing the capacity of the programme to build an EU-wide sustainable cross-disciplinary network by monitoring the number of	Count	EU-Parc Website	https://www.eu-parc.eu/synnet	Not applicable	Almost 200 institutions as of 2022

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
Risks from Chemicals			institutions that are part of the partnership.					
Launch Horizon Europe Partnership on Assessment of Risks from Chemicals	Number of yearly publications	Result	A key objective of PARC is to advance research and increase knowledge of chemical risk assessment and train relevant methodological skills. This indicator monitors this goal by looking at the number of scientific articles published under the initiative	Count	EU-Parc Website	https://www.eu-parc.eu/scientific-publications	Not applicable	Not Applicable
Reduce liver cancer caused by Hepatitis B & C virus	Number and country location of projects aimed at reducing liver cancers caused by hepatitis B & C funded by the EU4H programme.	Result	This indicator informs on the EU contribution to projects aimed at reducing liver cancers caused by Hepatitis B & C. In addition, it provides information on the countries in which such projects have been implemented.	Count	EC EU4Health Projects	To be retrieved from the data source	Not applicable	Not Applicable
Reduce liver cancer caused by Hepatitis B & C virus	Coverage of three doses of HBV vaccine in EU/EEA countries that implement universal HBV vaccination in 2020	Result	The hepatitis B vaccine has been instrumental in reducing the global incidence of hepatitis B among children under the age of five years. As of 2020, in the EU/EEA, 27 countries recommend universal childhood vaccination against hepatitis B. This indicator informs on the number of countries that have already reached the WHO 2020 target of 95% coverage	Percentage	ECDC's hepatitis B and C monitoring system	https://www.ecdc.europa.eu/assets/Prevention-Hepatitis-B-and-C/elimination-targets-progress.html	All countries	Data on vaccine coverage in 2020 were available from 23 countries. Of these, 11 countries (50%) have met the 2020 target of 95% coverage
Reduce liver cancer caused by Hepatitis B & C virus	Coverage of three doses of HBV vaccine in EU/EEA countries that implement	Result	Percentage of people aged 15 years old who received the recommended doses of HBV vaccine	Percentage	ECDC¡'s hepatitis B and C monitoring system	https://www.ecdc.europa.eu/assets/Prevention-Hepatitis-B-and-C/elimination-	95%	Data on vaccine coverage in 2020 were available

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
	universal HBV vaccination in 2020					targets-progress.html		from 23 countries.
Propose a Council Recommendation on vaccine-preventable cancers	Timely adoption of the Commission proposal	Output	This progress indicator informs on the adoption of the Commissions' proposal on vaccine-preventable cancers	Qualitative	European Commission	https://health.ec.europa.eu/publications/proposal-council-recommendation-vaccine-preventable-cancers_en	2024	Not applicable
Propose a Council Recommendation on vaccine-preventable cancers	Number of EU countries that have implemented the recommendation	Result	This indicator informs on the implementation of the Council Recommendation on vaccine-preventable cancers	Count	European Commission Implementation Reports	To be retrieved from the data source	All 27 MS	National framework on vaccine preventable cancers
Best practice call on non-communicable diseases under steering group on health promotion, disease prevention and management of non-communicable diseases (SGPP)	Number of best practices selected and implemented by the Member States	Output	This indicator counts the number of best practices related to NCDs prevention and health promotion implemented under EU4Health 2021 Work Plan	Count	European Commission	To be retrieved from the data source	Not Applicable	Not Applicable
Improving early detection of cancer								
Review Council Recommendation on cancer screening	Timely updates of the Council Recommendation to screen for cancer	Output	This indicator informs on the year of adoption of the Council Recommendation on cancer screening	Qualitative	European Commission	https://www.consilium.europa.eu/en/meetings/epsco/2022/12/09/	Updated in 2022	Council Recommendation on cancer screening

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
Review Council Recommendation on cancer screening	Number of EU countries that have implemented population-based lung cancer screening programmes in high-risk population	Result	This indicator informs on the implementation of the Council Recommendation on Cancer Screening Programmes	Count	European Commission Implementation Reports/Scientific Publications	To be retrieved from the data source	All 27 EU MS having lung cancer screening programmes	Only two countries as of 2022
Review Council Recommendation on cancer screening	Number of EU countries that have implemented population-based prostate cancer screening programmes	Result	This indicator informs on the implementation of the Council Recommendation on Cancer Screening Programmes	Count	European Commission Implementation Reports/Scientific Publications	To be retrieved from the data source	All 27 EU MS having prostate cancer screening programmes	Only one country as of 2022
European Cancer Imaging Initiative	see second action							
European Guidelines and Quality Assurance schemes on cancer screening, diagnosis, treatment, rehabilitation, follow-up and palliative care for breast, colorectal and cervical cancer	Frequency of updates of published guidelines	Result	This indicator informs on the work of the Knowledge Centre on Cancer to provide guidelines on quality assurance schemes on cancer screening, diagnosis, treatment, rehabilitation, follow-up and palliative care for breast, colorectal and cervical cancer	Count	European Cancer Guidelines and Quality Assurance	To be retrieved from the data source	Not Applicable	Not Applicable

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
Enable screening programmes monitoring via the inclusion of relevant indicators into the European Cancer Information System	Expansion of the ECIS with a new module focusing on the cancer screening indicators	Result	This indicator informs on the actions taken to upgrade the European Cancer Information system to start to routinely collect indicators to monitor and assess cancer screening programmes.	Qualitative	European Cancer Information System	https://ecis.jrc.ec.europa.eu	To be assessed	Not Applicable
Ensuring high standards in cancer care								
Creation of 'National Comprehensive Cancer Infrastructures' and EU network	Year of creation of the network	Output	This indicator informs on the year in which the network becomes fully operational	Qualitative	European Commission	To be computed	Network fully operational in 2025	Not Applicable
Creation of 'National Comprehensive Cancer Infrastructures' and EU network	Number of comprehensive cancer infrastructure/ centres in the Network	Result	This indicator monitors the number of comprehensive cancer infrastructures/ centres in the EU Network.	Count	European Commission Mapping of Comprehensive Cancer Infrastructures	To be retrieved from the data source	Not Applicable	At least one in almost all EU MS
Creation of 'National Comprehensive Cancer Infrastructures' and EU network	Fraction of eligible patients who have access to national comprehensive cancer infrastructures/ centres [326]	Result	This indicator is built by dividing the number of patients admitted to the national comprehensive cancer centres by the total number of eligible patients	Percentage	Data by National Comprehensive Cancer Infrastructures for patients admitted, national statistics for admittable cases	To be retrieved from the data source	95% by 2030	Not Applicable

[326] While the EBCP sets a target of 95% of eligible patients having access to Comprehensive Cancer Centres by 2030, it is important to note that a common definition of the criteria that determine patients' eligibility has not been provided yet.

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
New EU Networks of expertise on cancer and cancer conditions	Number of networks established	Result	This indicator measures the number of newly created reference networks on cancer and cancer conditions	Count	European Commission.	To be retrieved from the data source	Not Applicable	Not Applicable
EU Cancer Treatment Capacity and Capability Digital Mapping' project	Number of Member States covered by the mapping and sharing of different capabilities and expertise available across the EU.	Result	This indicator measures the number of Member States covered by the project to map and share the different capabilities and expertise available across the EU.	Count	European Commission	To be retrieved from the data source	The mapping consisting of the Wiki and Decision support system available by 2024	Not Applicable
'Cancer Diagnostic and Treatment for All' initiative	Number of projects financed through the initiative	Result	This indicator measures the outputs of the flagship initiative by looking at the number of projects it launched	Count	EU4Health	To be retrieved from the data source	Not Applicable	Not Applicable
Create the European Initiative to Understand Cancer (UNCAN.eu)	Initiative launched	Output	This indicator informs on whether the EU-wide research and data platform has been launched	Qualitative	UNCAN website	https://uncan.eu	2024	Not Applicable
New European Initiative to Understand Cancer (UNCAN.eu)	Number of European Cancer Research data infrastructure	Result	This result indicator informs on the available data sources for cancer research data across Europe.	Count	UNCAN website	https://uncan.dkfz.de	Not applicable	Not Applicable
'Inter-specialty training' programme	Number of trainings cohorts	Result	This indicator looks at the total number of cancer centres, trainees and trainers taking part to the programme	Count	Action level indicators established by the action grant	To be retrieved from the data source	Not Applicable	Not Applicable

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
'EU platform to improve access to cancer medicines' to support the repurposing of existing molecules	Platform fully operational	Output	This indicator informs on the delivery of the platform for systematic drug repurposing in oncology	Qualitative	NEWROAD website	https://new-road.eu	Not Applicable	Not Applicable
Implementation EU clinical trials framework and 'EU Clinical Trials Portal and Database'	Portal launched	Output	This indicator informs on the delivery of the Clinical Trials Information System (CTIS), the EU portal to which authorisation procedures for clinical trials will have to be submitted.	Qualitative	European Commission	https://euclinicaltrials.eu/	2022	Not applicable
Adoption of Regulation on 'Health Technology Assessment'	Timely adoption of the regulation	Output	This indicator informs on the adoption of the Regulation on HTA	Qualitative	European Commission	https://health.ec.europa.eu/health-technology-assessment/regulation-health-technology-assessment/implementation-regulation-health-technology-assessment_en	Regulation entered into force in 2022 and applies as of January 2025	Current framework on HTA
Adoption of Regulation on 'Health Technology Assessment'	Number of EU Joint clinical assessments (medicines, medical devices)	Result	Joint clinical assessments represent one of the main areas of joint work established by the HTA Regulation. This indicator informs on the number of joint clinical assessments conducted since the entry into force of the HTA regulation.	Count	Annual work programmes/ report	To be computed from the data source	Not applicable	Not Applicable
Adoption of Regulation on 'Health Technology Assessment'	Number of Joint Scientific Consultations	Result	Joint scientific consolations (advice to health technology developers on clinical study design; parallel HTA-EMA advice for medicines) represent	Count	Annual work programmes/ report	To be computed from the data source	Not applicable	Not Applicable

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
			one of the main areas of joint work established by the HTA Regulation. This indicator informs on the number of joint scientific consultations conducted since the entry into force of the HTA regulation.					
Strategic Agenda for Medical Ionising Radiation Applications (SAMIRA) Action Plan	Adoption of the Action Plan	Output	This indicator informs on the adoption of the SAMIRA action plan	Qualitative	European Commission	https://energy.ec.europa.eu/topics/nuclear-energy/radiological-and-nuclear-technology-health/samira-action-plan_en	Adopted in 2021	Not Applicable
SAMIRA: European Radioisotope Valley Initiative (ERVI)	Feasibility study of ERVI building blocks	Result	Feasibility assessment of different building blocks addressing the challenges across the medical radioisotopes (RI) supply chain across Europe	Count	European Commission	To be retrieved from the data source	2025	Not applicable
SAMIRA: European Radioisotope Valley Initiative (ERVI)	Securing the supply of stable isotopes for RI production	Result	Secure of supply of stable isotopes and reduction of dependencies on Russia	Qualitative	European Commission	https://www.eesc.europa.eu/en/our-work/opinions-information-reports/opinions/plan-europeen-pour-vaincre-le-cancer-vers-un-approvisionnement-sur-en-radio-isotopes-usage-medical	Not applicable	Russian dependency for key stable isotopes (e.g. Ytterbium-176)
SAMIRA: European Radioisotope Valley Initiative (ERVI)	Fraction of EU research reactors and radioisotope production facilities successfully	Result	In order to reduce the risk of nuclear proliferation, EU MS are strongly committed to the principle of High Enriched Uranium (HEU) minimisation (which can be weaponised) with the objective of converting research reactors fuel and	Percentage	Euratom Supply Agency	To be retrieved from the data source	7 Research reactors and 3 processors transitioned to HALEU	3 out of 7 Research Reactors and 3 out of 3 processors transitioned to HALEU

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
	transitioned to HALEU		targets for radioisotope production targets to High-Assay Low Enriched Uranium (HALEU, enriched to 19.75% uranium-235). This indicator monitors the developments of this transition in the EU.					
SAMIRA: European Radioisotope Valley Initiative (ERVI)	Industrial and commercial measures adopted to build a European capacity for producing HALEU metal	Result	HALEU is currently exclusively supplied from the USA and Russia. This dependency on USA and Russia creates a critical risk to the security of HALEU supply for the needs of the EU.	Qualitative	Euratom Supply Agency Supply Chains Studies	To be retrieved from the data source	Options explored by 2025	100 % supply from US and Russia
SAMIRA: European Radioisotope Valley Initiative (ERVI)	Network of RI production installations	Result	Work towards optimising a network of RI production installations to ensure flexible, resilient, sustainable, safe, equal and affordable access of EU citizens to long-lived medical isotopes	Qualitative	European Commission /Euratom Supply Agency	To be retrieved from the data source	To be explored in 2025	Not applicable
SAMIRA: European Radioisotope Valley Initiative (ERVI)	Network of installations for R&D on new medical RI	Result	Federate a European network of installations to secure evolving, resilient and sustainable access to not readily available isotopes to develop innovative cancer treatments	Qualitative	European Commission	To be retrieved from the data source	To be explored in 2025	Not applicable
SAMIRA: European Radioisotope Valley Initiative (ERVI)	Develop a monitoring / forecasting system on the supply and demand of medical RI	Result	The need for more reliable EU databases on isotope demand and supply capacities is needed to underpin investment decisions.	Qualitative	European Commission /Euratom Supply Agency	To be retrieved from the data source	in 2025	ESA observatory
SAMIRA: European Initiative on Quality and Safety of	Development of additional clinical guidelines and practical tools	Result	To improve radiation quality and safety in medicine, the Commission created the Steering Group on Quality and Safety (SGQS) of medical	Qualitative	European Commission	To be retrieved from the data source	Not applicable	Not Applicable Existing

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
medical applications (EIQS)			applications of ionising radiation. This indicator monitors the group's objective to create high-quality evidence, clinical guidelines and practical tools.					EU[327] and national legislation and guidance
SAMIRA: Improve workforce availability, education and training	Number of people trained	Result	The European Initiative on Quality and Safety of medical applications of ionising radiation also aims at educating and training researchers and professionals in radiology, radiotherapy and nuclear medicine. This indicator measures the number of health professionals and researchers trained under the programme.	Count	EU monitoring on workforce availability, education and training (funded underEU4Health, led by DG SANTE)	To be retrieved from the data source	Not applicable	Not Applicable
SAMIRA: Improve workforce availability, education and training	Establishment of standardised EU training curricula for staff working on radiation applications	Result	This indicator informs on the establishment of European training curricula for the various categories of staff with responsibilities for quality and safety of medical radiation applications.	Qualitative	European Commission	To be retrieved from the data source	Not Applicable	Not Applicable
SAMIRA: Improve workforce availability, education and training	Number of new EU certification schemes for quality and safety in radiotherapy, radiology and nuclear medicines	Result	The introduction of certification schemes in quality and safety is one of the actions foreseen to improve workforce availability, education and training.	Count	European Commission	To be retrieved from the data source	Not Applicable	Not Applicable

[327] Directive - 2013/59 - EN - EUR-Lex. Available at: Link ; European Commission, Radiation protection series publication. Available at: Link

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
SAMIRA: Equal access to modern technology and interventions	Publication of the study on the Implementation of Council Directive 2013/59/Euratom Requirements for Medical Equipment with Respect to Monitoring and Control of Patient's Radiation Exposure	Output	This indicator informs on the completion of the study to support Member States in the implementation of the Council Directive 2013/59/Euratom requirements for medical radiological equipment, with respect to controlling, recording and reporting of patients' radiation exposures led by DG ENER.	Qualitative	European Commission	To be retrieved from the data source	2024	Not Applicable
SAMIRA: Equal access to modern technology and interventions	Number of actions taken to conduct multi-centre clinical trials to validate novel interventions to treat and care for patients living with cancer.	Result	This indicator informs on the number of actions funded under the EU4Health and Horizon Europe conducted to improve the evidence for clinical efficacy of novel cancer interventions involving ionising radiation	Count	European Commission, EU4Health, Horizon Europe	To be retrieved from the data source	Not applicable	Not Applicable
SAMIRA: Equal access to modern technology and interventions	Share of EU national cancer plans including radiotherapy in their updates	Result	This indicator measures the extent to which national cancer plans take into account the best available evidence with respect to the value of radiation technology in cancer care.	Percentage	EU monitoring of national cancer plans under the on-going Joint Action iPAAC and similar future actions	To be retrieved from the data source	Not applicable	Not Applicable
SAMIRA: EU research and innovation support	Publication of research roadmap for medical applications of ionising radiation technologies	Result	This indicator informs on the implementation of a Strategic Research Agenda for research on medical applications of ionising radiation	Qualitative	European Commission	To be retrieved from the data source	2023	Not Applicable

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
Set up Partnership on Personalised Medicine	Launch of the European Partnership for Personalised Medicine	Output	This indicator informs on the successful establishment of the new Partnership on Personalised Medicine funded under Horizon Europe. The goal of the Partnership is to identify priorities for research and education in personalised medicine, support for research projects on cancer prevention, diagnosis and treatment and make recommendations for the roll-out of personalised medicine approaches and daily medical practice.	Qualitative	European Commission	https://www.epper med.eu/	Partnership launched in 2023	Not applicable
Roadmap to personalised prevention	Delivery of the roadmap to personalised prevention	Output	This indicator informs on the completion of the roadmap to personalised prevention	Qualitative	PHG Foundation Website	To be retrieved from the data source	2024	Not Applicable
Launch 'Genomic for Public Health' project	Number of MS in the consortium	Result	This indicator provides information on the EU MS participating to the project building the EU cancer and public health genomics platform	Count	European Commission	To be retrieved from the data source	Not applicable	17 EU countries
Launch 'Genomic for Public Health' project	Number of partners by category in the consortium	Result	This indicator provides information on the number of partners by category (medical hospitals, comprehensive cancer centres, universities, public health institutes, etc.) participating to the project building the EU cancer and public health genomics platform	Count	European Commission	To be retrieved from the data source	Not applicable	42 EU countries
Launch 'Genomic for	Number of standards operating	Result	This indicator provides information on the number of	Count	Evaluation of the CAN.HEAL project (WP3)	https://canheal.eu/	Not applicable	Not Applicable

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
Public Health' project	procedures and protocols developed		procedures and protocols delivered					
1+ Million Genomes Initiative	Number of projects implement in support of the initiative	Output	This metric lists the initiatives funded by the EU and MS to support the 1+MG initiative (Beyond 1 million Genomes project, the European Genomic Data infrastructure project, etc.)	Count	1+MG Initiative	To be retrieved from the data source	Not applicable	Not Applicable
1+ Million Genomes Initiative	Number of guidelines, best practices and standards developed in the 1+MG Framework	Result	This indicator informs on the guidelines and best practices developed in the 1+MG Framework and their updates and maintenance afterwards. It includes guidelines and best practices for: (i) sequencing, data generation and data quality; (ii) data models, standards and ontologies; (iii) technical infrastructures and proof of concepts that can be used to establish a 1+MG node.	Categorical	1+MG Framework	To be retrieved from the data source	Not applicable	Not Applicable
1+ Million Genomes Initiative	Number of pilots use cases completed	Result	This indicator measures the number of pilots use cases completed. Pilot use cases will be first conducted on synthetic data and will demonstrate the effectiveness of federated analysis on research and clinical use cases. (e.g. Polygenic Risk Scores (PRS) via synthetic data).	Count	1+MG Initiative	To be retrieved from the data source	Pilots use cases completed by 2027	Not Applicable
1+ Million Genomes Initiative	Number of genomic datasets across 1+MG	Result	This indicator informs on the number of datasets, distinguishing between rate diseases, cancer, common/complex diseases, infectious diseases generated by the MS that could be accessible.	Categorical	1+MG Initiative	To be retrieved from the data source	Not applicable	Not Applicable

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
1+ Million Genomes Initiative	Number of recommendations, resources, best practices developed by National Mirror Groups (NMGs)	Result	All countries with 1-MG nodes will have NMGs composed of national experts in research and healthcare that will contribute and lead the implementation of the 1+MG national infrastructure. This indicator informs on the degree to which NMGs contribute actively to the maintenance and implementation of the 1+MG Framework.	Count	1+MG Initiative	To be retrieved from the data source	Not applicable	Not Applicable
1+ Million Genomes Initiative	Number of EU countries having an operational infrastructure to manage genomic data access	Result	This indicator informs on the progress made in securing access to genomic data across borders.	Count	1+MG Initiative	To be retrieved from the data source	At least six EU countries by end of 2024, 15 EU countries by 2026.	Not Applicable
Project using High Performance Computing to rapidly test existing molecules and new drug combinations	See 'EU platform to improve access to cancer medicines' to support the repurposing of existing molecules							
Support collaborative projects on cancer diagnostics and treatment using High-Performance Computing and AI	Number of actions funded to support project implementation	Output	This indicator counts the number of actions devoted to support collaborative projects on cancer diagnostics and treatment using high-performance computing and AI receiving funds from the EU and the MS	Count	European Commission	To be retrieved from the data source	Not Applicable	Not Applicable

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
Assist researchers working on personalised cancer treatments through tailored support and new digital platforms	Number of virtual research environments interoperable with data portals	Output	This indicator measures the number of interoperable data portals accessible through the EOSC4Cancer project	Count	EOSC4Cancer website	To be retrieved from the data source	Not Applicable	Not Applicable
Support for health care workers, health professionals, patient organisations, wider stakeholder communities and researcher	Number of projects funded	Output	This indicator counts the number of projects funded by the EU and MS to support healthcare professionals, patient organisations and other stakeholders through initiatives in the fields of education, e-health and digitalisation, entrepreneurship.	Count	European Commission	To be retrieved from the data source	Not applicable	Not Applicable
Improving the quality of life for cancer patients, survivors, and carers								
'Better life for cancer patients' initiative: Create a tailor-made 'Cancer Survivor Smartcard'	Number of users of the App	Result	This indicator aims at measuring the success of an app by tracking the number of cancer patients and survivors using it.	Percentage	SmartCARE	To be retrieved from the data source	Not applicable	Not Applicable
Create the 'European Cancer Patient Digital Centre'	Blueprint of the ECPDC	Output	This progress indicator informs on the delivery of the blueprint of the Platform	Qualitative	European Commission	https://www.hidih.org/projects/epcdc	2024	Not Applicable

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
'European Cancer Patient Digital Centre'	Number of citizens, including cancer patients and survivors, using the platform	Result	This progress indicator informs on the degree of use of the platform	Count	ECPDC Statistics	To be retrieved from the data source	Not applicable	Not Applicable
Address fair access for cancer survivors to financial services	Establishment of a code of conduct on fair access of cancer survivors to financial services	Output	This indicator informs on the completion of a code of conduct on fair access of cancer survivors to financial services	Qualitative	European Commission	To be retrieved from the data source	2024	Not Applicable
Address fair access for cancer survivors to financial services	Number of EU MS implementing a legal right to be forgotten	Result	This indicator informs on the number of MS implementing this legal right. In addition the European Code of conduct would help advance the right to be forgotten in countries where no measure is in place yet.	Count	ECIR	https://cancer-inequalities.jrc.ec.europa.eu/data-tool-by-country?ind=_RTBFLEG&ft=TOTAL	All MS	Current national framework on access to financial services for cancer survivors
Analytical work addressing issues related to the return to work	Publication of the study on job retention and return to work of cancer survivors	Output	The EC aims at conducting a study to map MS policies, social protection policies and obstacles related to the return to work of cancer survivors. This progress indicator informs on the timely delivery of the study.	Qualitative	European Commission	To be retrieved from the data source	2024	Not Applicable
Analytical work addressing issues related to the return to work	Initiatives proposed by the EC to support upskilling and reskilling of cancer survivors	Result	The EBCP sets out a commitment of the EC to support upskilling and reskilling of cancer survivors, potentially using the resources of the ESF+. This indicator lists the measures adopted by the EC.	Qualitative	European Commission	To be retrieved from the data source	Not applicable	Not Applicable

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
Address in the Strategy on the Rights of Persons with Disabilities 2021-2030 the rights of cancer patients and survivors considered as persons with a disability	Adoption of the strategy	Output	This indicator informs on the adoption of the Strategy on the Rights of Persons with Disabilities 2021-2030. The strategy recognizes the rights of cancer patients and survivors to be considered persons with disabilities.	Qualitative	European Commission	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=COM:2021:101:FIN	Published in 2021	Not Applicable
Ensure full implementation of the Directive on work-life balance for parents and carers	Number of Member States having transposed the Directive	Result	This indicator informs on the degree of application of the Directive	Count	Conformity checks of national legislation with directive	To be retrieved from the data source	All MS	Current National Frameworks
Ensure full implementation of the Directive on work-life balance for parents and carers	Number of infringement procedures	Result	This indicator informs on the degree of application of the Directive	Count	Conformity checks of national legislation with directive	To be retrieved from the data source	Not applicable	Not Applicable
Reducing cancer inequalities across the EU								
Cancer Inequalities Registry	Frequency of publication of analytical reports	Result	The analytical reports represent the third milestone of the EU Cancer Inequalities Registry, complementing the work achieved through the Data Tool and the Country Cancer Profiles. The report examines policies and actions to tackle cancer care across the EU 27, Norway and Iceland.	Count	ECIR	https://cancer-inequalities.jrc.ec.europa.eu/focus-on-prevention-detection	Analytical reports published biennially, starting from 2024	Not Applicable

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
Cancer Inequalities Registry	Frequency of publication of country cancer profiles	Result	The Country Cancer Profiles aim to identify inequalities in cancer prevention and care for each EU MS, Norway and Iceland.	Count	ECIR	https://cancer-inequalities.jrc.ec.europa.eu/country-cancer-profiles	Cancer country profiles to be published biennially	Not Applicable
Reducing health inequalities through zero pollution: Regularly feed pollution monitoring and outlook data into the Cancer Inequalities Registry	Number of environmental indicators in the ECIR	Output	This indicator aims at assessing the degree to which the ECIR incorporates environmental indicators in their assessments.	Count	ECIR	https://cancer-inequalities.jrc.ec.europa.eu/environmental-indicators	Not applicable	Not Applicable
Strengthen e-health, telemedicine and remote monitoring systems	Number of technological solutions and recommendations developed to advance the integration of telemedicine and remote monitoring into European health systems.	Result	Strengthening e-health, telemedicine and remote monitoring systems contribute to reducing cancer inequalities by providing assistance to individuals and patients living in remote or rural areas. This indicator informs on the number of technological solutions (such as cloud-based platform for data protection, dashboards to support decision-making by healthcare professionals and tools for data analysis and visualisation and the future integration of AI) and recommendations developed to advance the integration of telemedicine and remote monitoring in the EU	Count	European Commission	To be computed from the data source	The current Joint Action on strengthening eHealth including telemedicine and remote monitoring for health care systems for cancer prevention and care will include a secure cloud-based platform for data protection, dashboards to support decision-making by healthcare professionals and tools for data analysis and visualisation and the future integration of artificial intelligence applications.	Not Applicable
Promote the virtual consultation model of the European	Number of virtual consultations carried out in the cancer	Result	This indicator informs on the use of virtual consultations among health professionals	Count	Monitoring Framework of ERNs	To be computed from the data source	Not applicable	Not Applicable

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
Reference Networks (ERNs)	related ERNs (ie.EURACAN, EuroBloodNet, GENTURIS, PaedCan)							
Establish a Resilience Testing and Support Programme	Number of pilots conducted to develop the handbook on resilience testing of healthcare systems and handbook completed.	Result	This indicator measures the number of pilot tests conducted and the publication of handbook developed under the Resilience Testing and Support Programme.	Count	European Commission	To be computed from the data source	Three pilots completed in 2023 and handbook published in 2024.	Not Applicable
Report on preventive care, including cancer	Publication of the report	Output	This output indicator informs on the publication of the report	Qualitative	European Commission	Report published in 2022 by the Health Systems Performance Assessment Expert Group	Report published in 2022 by the Health Systems Performance Assessment Expert Group	Not applicable
Monitoring implementation of health component of Recovery and Resilience Plans (RRPs) including on cancer	Number of cancer actions included in RRPs implemented on target, by country.	Result	In 2020, within the European Semester, all MS received country-specific recommendations in the area of health policy related to their NRRP. This indicator measures the extent to which the actions related to cancer initiatives were implemented in line with the initial national targets.	Percentage	NRRPs, Recovery and Resilience Scoreboard	To be computed from the data source	Not applicable	Not Applicable
Mainstream equality action in Europe's Beating Cancer Plan including addressing persons with disabilities	Number of actions and projects that include the equality dimension	Output	This indicator informs on the number of actions projects that incorporate topics related to cancer inequalities in their strategy	Count	European Commission	To be computed from the data source	Not Applicable	Not Applicable

Action	Indicator	Type of indicator	Description	Unit of measurement	Data source	Availability (Link)	Target	Baseline
Putting childhood cancer under the spotlight								
'Helping Children with Cancer Initiative': Create a Cancer Survivor Smart Card	See indicators on cancer survivor smart card							
Create an 'EU Network of Youth Cancer Survivors'	Number of members of the Network	Result	This indicator informs on the number of individuals (e.g. patients, survivors, healthcare professionals) who became members of the network	Count	EU Network of Youth Cancer Survivors website	To be computed from the data source	Not applicable	Not Applicable
Launch the 'Childhood cancers and cancers in adolescents and young adults: cure more and cure better' project to boost the transformation of paediatric cancer care	Number of interventions for children, adolescents and young adults with cancer	Result	This indicator measures the number of interventions aimed at improving the curing rate for children, young people and adolescents with cancer	Count	European Commission	To be computed from the data source	Not Applicable	Not Applicable

Table 11. Impact Indicators

Operational Objectives	Indicator	Type of indicator	Description	Unit of measurement	Data source	Link	Target	Baseline
New technologies, research and innovation at the service of patient-centred cancer prevention and care								
Driving change through	Number of clinical trials for cancer and	Impact	This indicator measures the number of clinical trials for cancers and the number of	Count	EU Clinical Trials Register	https://www.clinicaltrialsregister.eu/about.html	Not Applicable	10,000 patients treated in

Operational Objectives	Indicator	Type of indicator	Description	Unit of measurement	Data source	Link	Target	Baseline
knowledge and research	number of patients involved		patients participating in these clinical trials approved in the EU.					over 120 clinical trials
Saving lives through sustainable cancer prevention								
Create a Tobacco Free Generation	Prevalence of daily smokers	Impact	Fraction of daily smokers among population aged 15 or over, disaggregated by country, sex, education, income, urbanisation, age group and product category	Percentage	ECIR; Eurobarometer	https://cancer-inequalities.jrc.ec.europa.eu/data-tool-by-country?ind=SMOKE&ft=TOTAL	Smoking prevalence of 20% by 2025, 5% by 2040	18.4% of people aged 15 years and over in the EU were daily smokers in 2019
Create a Tobacco Free Generation	Prevalence of passive smokers	Impact	Fraction of people aged 15 or over with daily exposure to second hand smoke	Percentage	ECIR; Eurobarometer, EEA	https://cancer-inequalities.jrc.ec.europa.eu/data-tool-by-country?ind=PASSMOKE&ft=TOTAL	Not applicable	31% of the EU population exposed to second-hand smoke in 2022
Create a Tobacco Free Generation	Cancer cases attributable to smoking	Impact	This indicator informs on the fraction of cancer cases in Europe attributable to tobacco	Percentage	Global Cancer Observatory	https://vizhub.healthdata.org/gbd-results/	Not applicable	19.4% of cancer cases attributable to smoking in 2018
Create a Tobacco Free Generation	Estimated cancer deaths attributable to smoking	Impact	This indicator presents: (i) the total number of cancer-related deaths attributable to smoking; (ii) age-standardised cancer deaths rate attributable to smoking; (iii) the proportion of all cancer-related deaths attributable to smoking.	Count, age-standardised rate per 100,000 inhabitants	ECIR; Global Burden of Disease Study	https://vizhub.healthdata.org/gbd-results/	Not applicable	332,759 deaths in Western Europe, 107,219 in Central Europe and 116,035 in Eastern Europe in 2019
Create a Tobacco Free Generation	Estimated DALYs for cancers attributed to	Impact	This impact indicator measures the DALYs for smoking attributable cancers	Rate per 100 000 inhabitants	Global Burden of Disease; Scientific publications	https://vizhub.healthdata.org/gbd-results/	Not applicable	6,785,694 deaths in Western Europe,

Operational Objectives	Indicator	Type of indicator	Description	Unit of measurement	Data source	Link	Target	Baseline
	smoking- and second-hand smoke exposure							2,541,463 in Central Europe and 3,007,670 in Eastern Europe in 2019
Reducing harmful alcohol consumption	Proportion of people aged 15 and over that consume alcohol at least every month	Impact	This indicator informs on the prevalence of alcohol consumers in the EU. It can be disaggregated by country, sex, education, income, urbanisation, age	Percentage	ECIR, European Food and Safety Authority Food Consumption Data	https://cancer-inequalities.jrc.ec.europa.eu/data-tool-by-country?ind=ALCO&ft=TOTAL	Relative reduction of at least 10% in the harmful use of alcohol by 2025	8.4% of the EU adult population (15 years or older) consumed alcohol every day, 28.8% weekly and 22.8% monthly in 2019
Reducing harmful alcohol consumption	Total per capita consumption of alcohol among people aged 15 years and older	Impact	Litres of pure alcohol per person per year	count	ECIR, European Food and Safety Authority Food Consumption Data	https://cancer-inequalities.jrc.ec.europa.eu/data-tool-by-country?ind=ALCOQ&ft=TOTAL	Relative reduction of at least 10% in the harmful use of alcohol by 2025	9.5 litres of pure alcohol per year on average in the EU in 2021
Reducing harmful alcohol consumption	Cancer cases attributable to alcohol in the EU	Impact	This indicator informs on the number and proportion of cancer cases attributable to moderate, risky or heavy drinking. The indicator can be disaggregated by cancer type and gender	Count; percentage	WHO & IARC	https://gco.iarc.fr/causes/alcohol/home	Relative reduction of at least 10% in the harmful use of alcohol by 2025	Alcohol consumption estimated to cause 111,300 new cases of cancers in the EU (4.1% of all new cases) in 2020
Reducing harmful alcohol consumption	Cancer deaths attributable to alcohol in the EU	Impact	This indicator measures the number and proportion of cancer deaths attributable to alcohol.	Count; percentage	WHO & IARC	https://gco.iarc.fr/causes/alcohol/home	Relative reduction of at least 10% in the harmful use of alcohol by 2025	80,000 people died of alcohol-attributable cancers in

Operational Objectives	Indicator	Type of indicator	Description	Unit of measurement	Data source	Link	Target	Baseline
								the EU in 2016
Reducing harmful alcohol consumption	DALYs due to alcohol-attributable cancers in the EU	Impact	This indicator measures the number and rate of DALYs caused by alcohol-attributable cancers in the EU	Count; percentage	WHO & IARC	https://gco.iarc.fr/causes/alcohol/home	Not applicable	1.9 million years in 2016
Health Promotion via healthy diets and physical activity	Prevalence of childhood obesity in the EU	Impact	Fraction of children living with overweight and obesity, by country, gender, age group	Percentage	WHO European Childhood Obesity Surveillance Initiative; OECD; Scientific papers	https://www.who.int/europe/news/item/03-03-2023-childhood-obesity--five-facts-about-the-who-european-region	Not Applicable	29% of children aged 7-9 years in 2020[328].
Health Promotion via healthy diets and physical activity	Prevalence of physically inactive people	Impact	Proportion of the population aged 15 years and older that reported not to engage in non-work-related aerobic physical activity. Can be disaggregated by country, age, education, income, urbanisation, age.	Percentage	ECIR	https://cancer-inequalities.jrc.ec.europa.eu/data-tool-by-country?ind=PHYS&ft=TOTAL	Not applicable	47.3% of the EU population in 2019
Health Promotion via healthy diets and physical activity	Prevalence of individuals following healthy diets	Impact	Proportion of people aged 15 years and over who consume 5 or more portions of fruit and vegetables a day. Can be disaggregated by country, sex, education, income, urbanisation, age	Percentage	ECIR	https://cancer-inequalities.jrc.ec.europa.eu/data-tool-by-country?ind=FRUITVEG&ft=TOTAL	Not applicable	12.4% of the EU population in 2019
Health Promotion via healthy diets and physical activity	Prevalence of people affected by obesity	Impact	Prevalence of people with a BMI equal or greater than 30. Can be disaggregated by country, age, education, income, urbanisation, age.	Percentage	ECIR	https://cancer-inequalities.jrc.ec.europa.eu/data-tool-by-country?ind=OBES&ft=TOTAL	Not applicable	16.5% of the EU population in 2019
Reducing Environmental Pollution	Particulate matter 2.5	Impact	PM 2.5 is a major component of ambient air pollution. This indicator measures its annual	µg/m3	ECIR	https://cancer-inequalities.jrc.ec.europa.eu/data-	Not applicable	12.6 in 2019

[328] Source: link.

Operational Objectives	Indicator	Type of indicator	Description	Unit of measurement	Data source	Link	Target	Baseline
	concentration (PM2.5)		mean concentration at urban background stations. It can be disaggregated by country			tool-by-country?ind=PM25&ft=TOTAL		
Reducing environmental pollution	Particulate matter 10 concentration (PM10)	Impact	PM10 is a major component of ambient air pollution linked to lung cancer. This indicator measures the annual mean concentration of PM10 at urban background stations in agglomerations by country	µg/m3	ECIR	https://cancer-inequalities.jrc.ec.europa.eu/data-tool-by-country?ind=PM10&ft=TOTAL	Not applicable	20.5 in 2019
Reducing environmental pollution	Cancer deaths attributable to ambient air pollution	Impact	The indicator presents estimated age-standardised death rate attributable to ambient concentration of particles with an aerodynamic diameter smaller than 2.5 µm (PM2.5). PM2.5 is a major component of ambient air pollution.	Age standardised rate per 100,000 inhabitants	ECIR	https://cancer-inequalities.jrc.ec.europa.eu/data-tool-by-country?ind=ESTDPM	Not applicable	2.8 deaths per 100,000 inhabitants in the EU in 2019
Reducing environmental pollution	Cancer deaths attributable to indoor air pollution in the EU	Impact	The indicator presents estimated age-standardised death rate attributable to indoor household pollution. Household air pollution includes exposure to particulate matter less than 2.5 microns in diameter (PM2.5) due to the use of solid fuels for cooking, including coal, charcoal, wood, agricultural residue, and animal dung.	Age standardised rate per 100,000 inhabitants	ECIR	https://cancer-inequalities.jrc.ec.europa.eu/data-tool-by-country?ind=ESTDFUEL	Not applicable	10.2 deaths per 100,000 inhabitants in the EU in 2019
Reducing environmental pollution	Share of cancer deaths attributable to outdoor and indoor air pollution	Impact	This indicator informs on the impacts of air pollution on cancer.	Percentage	EEA	https://www.eea.europa.eu/publications/environmental-burden-of-cancer/air-pollution#:~:text=Air%20pollution%20may%20be%20linked,Europe%20(IHME%2C%202020).	Not applicable	1% of all cancer cases in the EU

Operational Objectives	Indicator	Type of indicator	Description	Unit of measurement	Data source	Link	Target	Baseline
Reducing exposure to hazardous substances and radiation	Number of workers dying from exposure to asbestos in the EU	Impact	This indicator informs on the number of workers dying for cancers caused by exposure to asbestos in the EU. Occupational asbestos is determined using the asbestos impact ratio (AIR), which is equivalent to the excess deaths due to mesothelioma observed in a population divided by excess deaths due to mesothelioma in a population heavily exposed to asbestos. Since the average time between initial asbestos exposure and the first signs of disease is about 30 years, the health risks stemming from exposure to asbestos are evaluated in the long term	Count	Global Burden of Disease	https://vizhub.healthdata.org/gbd-results/	Not applicable	70,000 workers in 2019
Reducing exposure to hazardous substances and radiation	Cancer deaths in Europe attributable to residential radon	Impact	This indicator presents age-standardised death rate attributable to residential radon exposure. Radon is a natural radioactive gas that occurs in the Earth's crust. Radon gas is drawn into homes from the ground. Some homes have high concentrations of radon, especially those in areas with more natural uranium in the soil and rocks. Radon cannot be sensed by humans as it has no colour or smell, but it can be measured because of its radioactivity. Exposure to radon increases our risk of lung cancer.	Rate per 100 000 inhabitants	ECIR	https://cancer-inequalities.jrc.ec.europa.eu/data-tool-by-country?ind=ESTDRRAD	Not applicable	1.7 per 100,000 inhabitants in the EU in 2019
Reducing exposure to hazardous	Cancer deaths in Europe attributable to	Impact	This indicator informs on the health burden of occupational	Age-standardised rate	ECIR	https://cancer-inequalities.jrc.ec.europa.eu/data-	Not applicable	8.9 per 100,000 inhabitants

Operational Objectives	Indicator	Type of indicator	Description	Unit of measurement	Data source	Link	Target	Baseline
substances and radiations	occupational carcinogens, such as asbestos, arsenic, and chromium		risks factors on cancer. It can be disaggregated by country.	per 100,000 inhabitants		tool-by-country?ind=ESTDOCCC		in the EU in 2019.
Preventing cancers caused by infections	Number of EU MS with a percentage of girls who received the recommended doses of HPV vaccine: a) above 90%, b) between 80% and 90%, c) between 70% and 80%, d) between 60% and 70% and so on	Impact	This indicator informs on the number of EU MS progressing towards the vaccination target of 90% of the population of girls. The primary target group in most of the countries recommending HPV vaccination is young adolescent girls, aged 9-14 (prior to becoming sexually active).	Count	ECIR	https://cancer-inequalities.jrc.ec.europa.eu/data-tool-by-country?ind=HPVVAX&ft=TOTAL	100% of MS with 90% vaccination coverage by 2030	Current vaccination rates
Preventing cancers caused by infections	Data on HBV/ HCV asymptomatic patients detection by country	Impact	Available information indicates that many living with chronic HBV and HCV infections remain undiagnosed and unaware of their infection. Testing for HBV and HCV is critical for diagnosing those living with chronic infections and linking them to treatment and to stop ongoing transmission of HBV and HCV leading to new chronic infections. This indicator is obtained by dividing the number of people with diagnosed by the estimated number of people with HBV/HCV infection. Averages and country ranges reported.	Rate per 100 000 inhabitants	ECDC's hepatitis B and C monitoring system	To be retrieved from the data source	Not Applicable	The number of people ever diagnosed and living with chronic HBV infection per 100 000 population ranged from 35.3 in France to 1258.1 in Latvia. The number of people diagnosed with chronic HBV infection per

Operational Objectives	Indicator	Type of indicator	Description	Unit of measurement	Data source	Link	Target	Baseline
								100 000 population in 2020 ranged from 0.3 in Portugal to 11.6 in Romania. (2020)
Preventing cancers caused by infections	Prevalence of hepatitis B and C and populations affected across the EU	Impact	This indicator aims at measuring the health burden of hepatitis B and C in the EU	Percentage	ECDC's hepatitis B and C monitoring system	https://www.ecdc.europa.eu/en/publications-data/prevention-hepatitis-b-and-c-eueea	Not Applicable	Not Applicable
Preventing cancers caused by infections	Proportion of patients diagnosed with hepatitis B and C who receive treatment	Impact	This indicator informs on the number of those diagnosed who received treatment, can be disaggregated by country, gender, age group.	Percentage	ECDC's hepatitis B and C monitoring system	https://www.ecdc.europa.eu/en/publications-data/prevention-hepatitis-b-and-c-eueea	The WHO 2020 target is 75%	0.08% in 2020 for HCV, 11% in Romania for HBV (Romania only country reporting data).
Preventing cancers caused by infections	Incidence rate of cancers attributable to hepatitis B and C	Impact	The indicator presents estimated age-standardised cancer rates attributable to hepatitis B. Viral hepatitis B and C infections contribute to nearly two-thirds of the worldwide burden of liver cirrhosis (IARC, WHO), a well-established precursor to liver cancer.	Age-standardised rate per 100,000 inhabitants	ECDC's hepatitis B and C monitoring system, Global Burden of Disease; ECIR	https://gco.iarc.fr/causes/infections/tools-multi-bars?mode=1&sex=0&population=who&country=4&continent=0&agent=0&cancer=0&key=attr_cases&lock_scale=0&nb_results=10	Not Applicable	In 2019, across all age groups, there were an estimated 2.08 million (95% uncertainty interval [UI] 1.66 to 2.54) incident cases of acute hepatitis B and 0.49 million (0.42 to 0.57) of hepatitis C in Europe.

Operational Objectives	Indicator	Type of indicator	Description	Unit of measurement	Data source	Link	Target	Baseline
Preventing cancers caused by infections	Cancer deaths attributable to hepatitis B and C in Europe	Impact	This indicator reports the total numbers and age-standardised rates per 100,000 for HCV and HBV related cancers.	Total numbers, Age-standardised rate per 100,000 inhabitants	Global Burden of Disease, ECDC	https://www.ecdc.europa.eu/assets/Prevention-Hepatitis-B-and-C/overall-situation.html#:~:text=Based%20on%20data%20from%202015,000%20deaths%20annually%20%5B7%5D.	Not Applicable	Deaths were estimated at 9 thousand (6,88 to 11,62) due to HBV-related liver cancer and 23,07 thousand (18,95 to 27,31) due to HCV-related liver cancer (rate per 100,000 inhabitants)
Improving early detection of cancer								
Improving early detection of cancer	Breast Cancer Screening	Impact	Percentage of women aged 50-69 that reported never having had a breast examination by X-ray. Can be disaggregated by country, education, income, urbanisation, and age group.	Percentage	ECIR	https://cancer-inequalities.jrc.ec.europa.eu/data-tool-by-country?ind=BREXAM&ft=TOTAL	90% of the EU population who qualify for breast cancer screenings are offered screening by 2025	11.4% in the EU in 2019 never had a breast examination
Improving early detection of cancer	Cervical Cancer Screening	Impact	Percentage of women aged 20-69 that reported never having had a cervical smear test. Can be disaggregated by country, education, income, urbanisation.	Percentage	ECIR	https://cancer-inequalities.jrc.ec.europa.eu/data-tool-by-country?ind=CERVSM&ft=TOTAL	90% of the EU population who qualify for cervical cancer screenings are offered screening by 2025	13.7% in the EU in 2019 never had a cervical smear test
Improving early detection of cancer	Colorectal Cancer Screening	Impact	Percentage of people aged 50-74 that reported never having had a colorectal cancer screening using faecal occult blood test. Can be disaggregated by country, education, income, urbanisation.	Percentage	ECIR	https://cancer-inequalities.jrc.ec.europa.eu/data-tool-by-country?ind=COLSCR&ft=TOTAL	90% of the EU population who qualify for colorectal cancer screenings are offered screening by 2025	48.7% in the EU in 2019 never had a colorectal cancer screening

Operational Objectives	Indicator	Type of indicator	Description	Unit of measurement	Data source	Link	Target	Baseline
Improving early detection of cancer	Coverage of national cervical cancer screening program	Impact	Proportion of eligible individuals who have participated in cervical screening or Pap smear tests. Can be disaggregated by country.	Percentage	ECIR	https://cancer-inequalities.jrc.ec.europa.eu/data-tool-by-country?ind=_CERVCVRG&ft=TOTAL	90% of the EU population who qualify for cervical cancer screenings are offered screening by 2025	10 to 50% in the EU in 2019
Improving early detection of cancer	Mammographs	Impact	Number of dedicated mammography machines per 100,000 inhabitants designed exclusively for taking mammograms. Can be disaggregated by country.	Rate per 100,000 inhabitants	ECIR	https://cancer-inequalities.jrc.ec.europa.eu/data-tool-by-country?ind=MAMM&ft=TOTAL	Not Applicable	2.5 machines per 100,000 inhabitants in the EU in 2020
Ensuring high standards in cancer care								
Ensuring access to essential medicines and innovation	Gamma cameras	Impact	Number of Gamma cameras per 100,000 inhabitants in the EU and by country	Rate per 100,000 inhabitants	ECIR	https://cancer-inequalities.jrc.ec.europa.eu/data-tool-by-country?ind=GAMMACAM&ft=TOTAL	Not Applicable	0.8 per 100,000 inhabitants in the EU in 2020
Ensuring access to essential medicines and innovation	PET scanners	Impact	Number of Positron Emission Tomography scanner units per 100,000 inhabitants	Rate per 100,000 inhabitants	ECIR	https://cancer-inequalities.jrc.ec.europa.eu/data-tool-by-country?ind=PETSCAN&ft=TOTAL	Not Applicable	2.5 per 100,000 inhabitants in the EU in 2020
Ensuring access to essential medicines and innovation	Radiation therapy equipment	Impact	Number of machines per 100,000 inhabitants used for cancer treatment with x-rays or radionuclide in the EU and disaggregated by country.	Rate per 100,000 inhabitants	ECIR	https://cancer-inequalities.jrc.ec.europa.eu/data-tool-by-country?ind=RADEQ&ft=TOTAL	Not Applicable	0.78 per 100,000 inhabitants in the EU in 2020
Ensuring access to essential medicines and innovation	Computed Tomography Scanners	Impact	Number of Computed Tomography scanners per 100,000 inhabitants	Rate per 100,000 inhabitants	ECIR	https://cancer-inequalities.jrc.ec.europa.eu/data-tool-by-country?ind=CTUNITS&ft=TOTAL	Not Applicable	2.5 per 100,000 inhabitants in the EU in 2020

Operational Objectives	Indicator	Type of indicator	Description	Unit of measurement	Data source	Link	Target	Baseline
Delivering high quality care	Colonoscopy	Impact	Percentage of population who reported to have never had colonoscopy	Percentage	ECIR	https://cancer-inequalities.jrc.ec.europa.eu/data-tool-by-country?ind=COLONOS&ft=TOTAL	Not Applicable	77.4% in the EU in 2019
Ensuring a high-quality health workforce	Oncologists	Impact	Number of oncologists per 100,000 inhabitants	Rate per 100,000 inhabitants	ECIR	https://cancer-inequalities.jrc.ec.europa.eu/data-tool-by-country?ind=NUMONC&ft=TOTAL	Not Applicable	2.4 per 100,000 inhabitants in the EU in 2020
Improving the quality of life for cancer patients, survivors, and carers								
Improving the quality of life for cancer patients, survivors and carers	Implementation of a right to be forgotten for Cancer Patients	Impact	Implementation status of a right to be forgotten for Cancer Patients	Qualitative	ECIR	https://cancer-inequalities.jrc.ec.europa.eu/data-tool-by-country?ind=_RTBFLEG&ft=TOTAL	Not Applicable	Implemented in Belgium, France, Italy, Cyprus, Romania, Netherlands, Portugal, Spain as of 2024
Reducing cancer inequalities across the EU								
Reducing cancer inequalities across the EU	Incidence	Impact	Estimated number of new cases, for all cancers combined and by type of cancer, disaggregated by country, sex, age, gender	Age-adjusted rates per 100,000 inhabitants, crude rate	ECIR, ECIS	https://cancer-inequalities.jrc.ec.europa.eu/data-tool-by-country?ind=ALLINCD&ft=TOTAL	Not Applicable	571.5 new cases in age-standardised rate in the EU in 2020
Reducing cancer inequalities across the EU	Mortality	Impact	Age-standardised death rate per 100,000 inhabitants, for all cancers combined and by type of cancer, disaggregated by country, sex, age, gender.	Rate per 100,000 inhabitants	ECIR, ECIS	https://cancer-inequalities.jrc.ec.europa.eu/data-tool-by-country?ind=ALLMORT&ft=TOTAL	Not Applicable	252 deaths in age-standardised rate in the EU in 2020
Reducing cancer inequalities across the EU	Estimated cancer disability-	Impact	Number of years of full health lost due to cancer, disaggregated by country, gender	Age-standardised rate per 100,000 inhabitants	ECIR	https://cancer-inequalities.jrc.ec.europa.eu/data-tool-by-	Not Applicable	3342.4 per 100,000 inhabitants

Operational Objectives	Indicator	Type of indicator	Description	Unit of measurement	Data source	Link	Target	Baseline
	adjusted life years					country?ind=ESTCDALY&ft=TOTAL		in the EU in 2019
Reducing cancer inequalities across the EU	Productivity loss due to premature mortality by country	Impact	The indicator presents productivity loss per capita (in €, PPP-adjusted) due to premature mortality from cancer. It is calculated as the lost earnings after death during working age (15–64 years). It therefore includes the lost future earnings from patients who die during working age and who otherwise would have continued to work until retirement age.	Million PPP adjusted	ECIR	https://cancer-inequalities.jrc.ec.europa.eu/data-tool-by-country?ind=PRODLOSS&ft=TOTAL	Not Applicable	93.3 million PPP adjusted in the EU in 2018
Putting childhood cancer under the spotlight								
Putting childhood cancer under the spotlight	Essential medicines for childhood cancers	Impact	The indicator presents the percentage of medicines used in paediatric cancer patients aged 0 to 18 years available in each country, out of the 68 medicines identified as essential in the study from Vassal et al., 2021.	Percentage	ECIR	https://cancer-inequalities.jrc.ec.europa.eu/data-tool-by-country?ind=AVMEDCHLD&ft=TOTAL	Not applicable	75.8% in the EU in 2018
Putting childhood cancer under the spotlight	Oncology clinical trials for children	Impact	The indicator presents the percentage of available oncology trials open to participation to children and adolescents under the age of 18 in each EU country. It can serve as an indirect surrogate for patient's access to research and innovative treatments.	Percentage	ECIR	https://cancer-inequalities.jrc.ec.europa.eu/data-tool-by-country?ind=ONCTCHLD&ft=TOTAL	Not applicable	12.3% in the EU in 2022
Putting childhood cancer under the spotlight	Incidence of paediatric cancers	Impact	This indicator measures the incident cases of cancers in children and adolescents (0-19 years) years, disaggregated by country, sex and cancer type.	Count	Global Burden of Disease Study, European Commission, ECIS	https://ecis.jrc.ec.europa.eu/explorer.php?$0-0$1-All$2-All$4-1,2$3-0$6-0,14$5-2022,2022$7-7$CEstByCountry	Not applicable	14 thousand new cancer cases in 2022

Operational Objectives	Indicator	Type of indicator	Description	Unit of measurement	Data source	Link	Target	Baseline
						$X0_8-3$X0_19-AE27$X0_20-No$CEstBySexByCountry$X1_8-3$X1_19-AE27$X1_-1-1$CEstByIndiByCountry$X2_8-3$X2_19-AE27$X2_20-No$CEstRelative$X3_8-3$X3_9-AE27$X3_19-AE27$CEstByCountryTable$X4_19-AE27		
Putting childhood cancer under the spotlight	Mortality of paediatric cancers	Impact	This indicator measures the number of adolescents (0-19 years) who died from cancer in Europe, disaggregated by country, sex and cancer type,	Count	Global Burden of Disease Study, European Commission, ECIS	https://ecis.jrc.ec.europa.eu/explorer.php?$0-0$1-All$2-All$4-1,2$3-0$6-0,14$5-2022,2022$7-8$CEstByCountry$X0_8-3$X0_19-AE27$X0_20-No$CEstBySexByCountry$X1_8-3$X1_19-AE27$X1_-1-1$CEstByIndiByCountry$X2_8-3$X2_19-AE27$X2_20-No$CEstRelative$X3_8-3$X3_9-AE27$X3_19-AE27$CEstByCountryTable$X4_19-AE27	Not applicable	2.1 thousand deaths in 2022
Putting childhood cancer under the spotlight	Survival of paediatric cancers	Impact	This indicator measures the 5-years survival for children aged 0 to 14 years old,	Percentage	Global Burden of Disease Study, European Commission	https://cancer-inequalities.jrc.ec.europa.eu/sites/default/files/ECIR-	Not applicable	81% in 2022

Operational Objectives	Indicator	Type of indicator	Description	Unit of measurement	Data source	Link	Target	Baseline
			disaggregated by country, gender and cancer type.			inequalities-factsheet-childhood-cancer-Dec2023.pdf		

6.8. Annex 8: Summary of focus groups

6.8.1. First focus group – Task 1. Future proofing analysis

5th October 2023, 10:00-12:00 CEST (online event)

Participants

Open Evidence, PwC, Experts, HaDEA (observer)

Minutes of the meeting

Developments affecting the implementation of the EBCP

Technological developments

One of the experts mentioned that a few other projects under the Innovative Medicines Initiative on the use of real world data and Artificial Intelligence might be cited (e.g. EHDEN and Optima). In particular, they aim to use AI to update evidence-based guidelines in breast and prostate cancers, among others.

Another expert highlighted the role that the use of AI will have in cancer care and healthcare in general taking into account the current and future regulatory moves in AI. In particular, the expert believed that potential risks and new pieces of legislation in the pipeline should be taken into account.

It was also mentioned that, when it comes to population-based cancer registry data, one of the priorities should be to include more information on co-morbidities and competing risks: in this sense, legislators should be more aware about the critical need to interpret patterns of care and new trends in the cancer patients population, since this is still quite patchy across different EU countries.

Lastly, other experts noted that some further elements need to be considered: these include, by way of example, CAR T-cell therapies, the role played by telemedicine (both for patients and healthcare professionals) as well as the advantages of exchanging medical knowledge and expertise between healthcare professionals (also in terms of cross-border collaboration). An expert also mentioned the importance of establishing a European cancer registry approach that could unify the different national cancer registries.

Political developments

One of the experts fears that, although the EBCP was an extraordinary result of combined actions among researchers, political will and healthcare institutions, the situation has come now to an impasse, with the political energy which is no longer there and a sense of uncertainty about the future of the Plan due to 2024's European Parliament elections. Moreover, the expert feels that some policies and actions are now proceeding slowly, in particular prevention policies such as those on alcohol consumption. In this context, the expert reminded the presence of a powerful private sector lobby against new prevention policies for tobacco and alcohol consumption, just to mention a few, which has the potential to hinder the design of new actions and objectives. In this sense, the industry constitutes a major roadblock on what might be further done in the field of prevention.

Another expert noted that some clarity should be made around the concepts of Comprehensive Cancer Centres (CCCs), Comprehensive Cancer Infrastructures (CCIs) and Comprehensive Cancer Care Networks (CCCNs). In particular, the expert stressed that CCI is the umbrella terminology generally used. Within CCIs, CCCs and CCCNs can be found. The expert also acknowledged that, given the high number of Joint Actions in this field, it might be challenging for Member States to keep the pace if they do not have enough staff that can work on such projects. As a matter of fact, this has proven to be challenging also for bigger Member States like Germany to participate in and dedicate time for these activities. The expert also noted that new Joint Actions will be launched soon, e.g. one on cancer screening and one on the implementation of CCIs. The expert also believes that more emphasis should be put on the topic of quality of care, since if there is no access to quality care, it might be difficult to improve the overall care for cancer patients.

One of the experts also mentioned that, as far as the recent political developments are concerned, more emphasis might be put on the linkages between cancer policies and other initiatives not strictly related, e.g. such as the Farm to Fork Strategy and the European Green Deal.

Other aspects worth to be mentioned include the increasing interest on the patients' and survivors' quality of life and on the right to be forgotten, as well as initiatives on mental health of patients and survivors alike.

Societal developments

As far as tobacco consumption is concerned, one expert noted that, although we are witnessing a decreasing trend, emerging products are going to cause many problems due to lack of evidence on their effects, since the discrepancies on their positive and negative effects are still significant. Thus, the expert highly appreciates the prospect of a European Commission proposal for an update of the Tobacco Products Directive planned for next year, where emerging products like electronic cigarettes and heated tobacco products will be further regulated. Tobacco legislation is indeed pivotal here, as it can largely prevent cancer across the EU. Also, as regards the funds, Horizon Europe will be fundamental to provide the funding necessary to carry out further research that can better inform legislators and policy-makers. Another expert agreed with the above, and also stressed that considering these emerging products as a valid method to quit smoking might be particularly dangerous given their uncertain effects. Moreover, the expert believes it would be needed to introduce smoking cessation into cancer care, as this would highlight the

benefit of considering smoking cessation as an important preventive measure for cancer.

As far as prevention is concerned, another expert stressed that more focus is needed on the socio-economic drivers and the financial stress leading people to consume cheap unhealthy food that increase cancer risk factors. This will be indeed an important challenge in the next years if the financial situation does not improve for European citizens and families.

Occupational risks

One expert noted that, when referring to environmental tobacco smoke, the term second-hand smoke should be used instead. In this context, it should also be mentioned that, while it is true that exposure to second-hand smoke has decreased in restaurants, cafes, etc., it is likely that such exposure has now increased elsewhere in other outdoor and semi-outdoor spaces. Thus, the expert appreciates that some Member States and cities have started forbidding smoking in some outdoor and semi-outdoor spaces (e.g. parks, bus stops, areas close to hospitals and schools, etc.).

Environmental risks

One expert noted that health budgets might be potentially reduced in the coming years as governments will face increasing challenges in coping with the growing costs of the climate emergency (e.g. recovery from wildfires, flooding, etc.). Thus, it will be fundamental that governments make sure to find adequate financial resources in such an ever-changing context.

Also, as shown by the COVID-19 pandemic, it is no more essential to be physically present in clinics and healthcare facilities to receive certain types of visits and treatments, and this will be fundamental to rethink the way treatment centres are structured. By way of example, in light of extreme climate events and the need to reduce pollution, smaller community treatment centres will be increasingly preferrable to bigger hospitals located in cities which might be difficult to reach for people living in remote areas. Thus, new discussions on the de-centralisation of services to patients are needed.

Healthcare workforce

Some experts noted that an alarming trend concerns the constant reduction of the healthcare workforce in some Member States due to migration to other countries for better working conditions and opportunities. The issue of brain drain is indeed an alarming trend, in particular for those countries which are economically struggling, as they are not able to retain their healthcare workforce. Moreover, some ethical concerns might be raised, given that recruiting healthcare staff from already disadvantaged countries (e.g. some regions in Africa or Asia) might worsen further the situation in those areas.

Another expert echoed these points and added that one of the objectives in this area should be to build multidisciplinary teams including various medical specialties (e.g. cardiologists, endocrinologists, neurologists, etc.). Moreover, the expert stressed

that there are some additional professions which often tend to be forgotten (e.g. pharmacists, physiotherapists, occupational therapists, dieticians, etc.) which should be increasingly considered throughout the managing of cancer care and treatment.

Adequacy of the EBCP

Evolution of the disease in Europe

One expert believes that the narrative on the ageing of the cancer patient population should be particularly stressed. As a matter of fact, although statistics on the ageing of European citizens are clear, it should be stressed further how this correlates with the increasing complexity of managing cancer in patients.

Overall evaluation of the EBCP and actions to be prioritised

Some experts agreed that more emphasis should be put on ensuring continuous funding to academia, institutions and NGOs, in particular as far as cancer prevention is concerned. Especially, this will be challenging for NGOs, given their key role of creating synergies in the EU. Moreover, an expert warned that as of 2025, if confirmed, operating grants will be abolished, hence posing the activities of NGOs at risk and giving further space to industry's interference on some topics (e.g. tobacco and alcohol consumption prevention, etc.).

As far as implementation, monitoring and evaluation of the EBCP are concerned, one expert noted that a useful tool that might be use in this context has been developed by EFPIA in collaboration with the European Cancer Organisation and the European Cancer Patient Coalition, i.e. the European Cancer Dashboard.

Lastly, as far as inequalities are concerned, one expert believes that more focus should be put on ageing, since this constitutes a major determinant in access to innovation, clinical trials, diagnosis and treatment.

Lessons learnt from the COVID-19 and how to react to a possible new pandemic

An expert noted how the COVID-19 pandemic clearly showed that things can be differently, as activities in healthcare facilities were carried out both in person and virtually. Another expert also stressed that Europe will need to be prepared in the next years to face a situation with an increasing number of diagnoses and cases which have been missed during the COVID-19 pandemic. Furthermore, it was mentioned that, in case a new pandemic will occur in the future, it will be fundamental to make good use of ventilations and mask strategies to help keeping places open and make sure that healthcare professionals, scientists and researchers are trusted in spite of the rise of anti-vaccines movements and conspiracy theories.

6.8.2. Second focus group – Task 2. Country analysis

12th October 2023, 10:00-12:00 CEST (online event)

Participant

Open Evidence, PwC, Experts

Minutes of the meeting

National strategies and measures against cancer

One of the experts mentioned that Germany was currently updating their national cancer plan, expected to be released by the end of the year. Additionally, the German Ministry of Health is currently conducting an assessment to see if the themes and pillars of the EBCP are addressed by their national cancer plan and to which extent. The expected release date is for mid next year.

The expert also mentioned that there was a previous study released as part of the Joint Action iPAAC on the implementation of national cancer plans in Europe (link). It was done prior to the EBCP but it is still relevant and useful.

Overview of measures across EBCP pillars (prevention and early detection)

One of the experts mentioned that Romania is also planning to introduce free HPV vaccination for boys between 11 and 18 years old of starting 1st of December.

Another expert mentioned that in Luxembourg the waiting time to get a mammogram after receiving the screening invitation letter is now of several months, and it can take up to one year. This observation was based mainly on anecdotical evidence but also reported in a news article (link). However, if a doctor suspects breast cancer is present the requirement of two weeks waiting time limit is met.

One of the experts mentioned that it would be interesting to see why some countries decide to offer a screening programme for specific types of cancer, and whether this is related to cancer incidence in the country. The expert also mentioned that it would be interesting to mention secondary screening programmes in Europe, while pointing out the example of the EUROPAC project (link).

Another expert mentioned that there is some anecdotical evidence on cases that the political will drives the promotion of certain types of initiatives. The expert argued that this is the case, for instance, of breast cancer screening at regional level in Greece.

An expert mentioned the examples of projects funded under the EU4Health Programme that are assessing the implementation of lung cancer and gastric cancer screening programmes (i.e. SOLACE and TOGAS).

Overview of measures across EBCP pillars (diagnosis, treatment and quality of life)

One of the experts mentioned that in terms of Comprehensive Cancer Centres (CCCs), the key point is the fact that these centres are certified. Any hospital could call itself a CCC, therefore having a certification programme helps confirm the quality of treatment in these centres. The EU-funded Joint Action CraNE is now creating a network of EU CCCs. The idea is to have at least one of these centres in each EU Member State.

One of the experts mentioned that on top of the countries that we identified offering psychological support for cancer patients, Luxembourg also provides psychological support at the end of the oncological treatment. The Centre of Rehabilitation supports patients for their reintegration in family, social and professional life (link).

Best practices

One of the experts mentioned an initiative that has been implemented in France since 2006, notably the establishment of coordination units and antennas of oncogeriatrics (link). The expert states that it was a forefront initiative in the field of diagnosis and treatment and quality of life, with a focus on geriatric oncology.

When asked which criteria could be used to identify best practices in terms of initiatives in the fight against cancer, one of the experts said that a best practice should be transferable to other countries and not a solution for a specific problem and context. In other words, it should be easily implemented in a different Member State. Another criterion to identify a best practice example should be whether an initiative has been evaluated and whether this evaluation shows a positive effect and outcome.

The expert mentioned that some years ago there was an initiative by the European Commission giving individuals the opportunity to submit best practice examples in particular for cost-effective health promotion and disease prevention measures: the EU Public Health Best Practice Portal (link). Therefore, it would be a good idea to look at the criteria established by this portal to discern whether an initiative was indeed a best practice example.

Barriers for implementation

One of the experts mentioned that they would have expected to see policy and institutional barriers as the main barrier type impacting the implementation of national cancer related policies and measures across the entire EU. As the barriers presented were across all EU Member States, including Iceland and Norway, one of the experts suggested that a country level analysis would be more appropriate.

The expert was reassured that this country level analysis will be present in the country factsheets, and the intermediate report would present a high-level overview of the key themes extracted from all responses grouped together across each of the barrier types. In addition, it was highlighted to the expert that carrying out an in-depth quantitative analysis of the survey responses was not possible given the limited number of responses to the survey, and instead we would objectively present the various barriers highlighted across the different stakeholder categories.

When discussing the COVID-19 barriers highlighted by the survey respondents, one expert suggested to add a point on the impact of mortality following COVID-19 with data provided by the ECDC. Another expert shared a report by the health observatory on COVID-19 barriers faced in Romania (link).

When discussing policy and institutional barriers, one expert highlighted that regional disparities are certainly a key barrier affecting the implementation of national cancer related policies and measures. One expert suggested the possibility of ranking responses on the policy and institutional barriers; however, it was explained to the expert that this is difficult to do given the high variability in the responses provided across the different stakeholders and the limited number of responses overall.

When discussing clinical barriers, one expert pointed that when talking about treatment availability, it should be clear whether this incorporates all elements including access and affordability. The expert also shared some information and reports on the availability of medicines across the EU (here, and here). Another key point raised by an expert on clinical barriers was in relation to the terminology used when describing cancer infrastructure. According to the expert, the concept of Comprehensive Cancer Centre Infrastructure exists, so when referring to other types of infrastructure the expert suggests using different terminology to avoid any confusion. Another key clinical barrier highlighted by one of the experts is the lack of data documentation and digitalisation, which creates many problems.

When discussing behavioural barriers, one of the experts highlighted that the element of patient fear cannot be underestimated. Another expert mentioned that the behaviour of economic operators, beyond that of healthcare professionals, should also be considered when discussing the prevention of cancer, and in particular the dietary habits. For example, the expert suggest that it can be challenging to consume at least five portions of fruit and vegetables per day if these are not available within a close proximity to your home.

When discussing other barriers, one expert state that of conflicting interests of major corporations, such as the tobacco industry when implementing national measures to combat tobacco consumption. This was seconded by another expert as a key point to take into consideration along with other societal issues. Another stakeholder raised the issue of housing and its affordability to address the issues surrounding the healthcare workforce.

6.8.3. Third focus group – Task 3. Evaluation of progress of EU4Health

7th February 2024, 15:00-17:00 CEST (online event)

Participants

Open Evidence, PwC, Experts

Minutes of the meeting

Pillar I - Prevention

After a description of the projects that were included in the analysis of EU4Health projects for Pillar 1 of the EBCP, one expert wondered whether there was a cut-off date for the projects that were included. As a matter of fact, the expert mentioned that there are additional projects which have been funded last year. By way of example, there is a project called FILTERED, which is supporting the Norwegian led JA on non-communicable diseases. It is signed but has not yet started.

The research team specified that the data have been provided by HaDEA/SANTE and that the cut-off was the end of 2023. Moreover, in order to select the projects for the case studies, the team looked at the projects falling under the different pillars and project types, focusing on those projects which were more advanced to get more insights into their experience and barriers.

Pillar II – Early detection

The research team noted that a Joint Action was signed in January 2023, although no specific information on this could yet be found. Moreover, EUCANSCREEN is expected to start soon.

Pillar III – Diagnosis and treatment

One of the experts noted that Austria is not party of CraNE. The expert also noted that this project reflects the EU challenge of including everybody while at the same time having very high standards. This has been a major obstacle during the implementation of such a project. As an alternative, the expert proposed to have ranges, since they would allow to identify any developments. In any case, the expert believed that some limitations will always remain for small Member States, and that for some cases some form of cross-border collaboration will be essential. The expert also highlighted that, in line with the US definition of similar centres, the research component remains fundamental in the definition of a Comprehensive Cancer

Centre (CCC), otherwise without this component a CCC would merely be an oncology centre doing some clinical trials. The expert noted that the formulation of Flagship 5 of the EBCP ('90% of eligible patients have access to CCCs by 2030') could be interpreted in different ways and wished that the European Commission could clarify it, in particular how 'eligible patients' are defined, and whether access takes into account cross-border access, which is relevant in the case of small countries.

On the issue of small Member States, another expert raised a point concerning Luxembourg, where citizens can indeed generally go abroad for treatment paid for by the government if they are eligible for a clinical trial elsewhere and it isn't being run in Luxembourg.

Pillar IV – Quality of life of cancer patients and survivors

One expert noted that the expenses point is important here. Indeed, the expert reminded that the Council agreed in July 2023 that travel and accommodation daily rates in grants should be increased by 25% but didn't backdate that to pre-July 2023 applications.

Lessons learnt on the application process

One expert agreed with the lessons learnt on the application process highlighted by the research team and believed that the application processes might be very difficult and deadlines might be very tight sometimes. The expert noted that putting the application together could incur 3-4 months of unpaid work, which could be challenging for small organisations and NGOs. Meeting the conditions can also be difficult. Moreover, the expert mentioned that apparently EUR 1 million out of the EUR 4 million of EU4Health will be redirected elsewhere and noted that most of the EU4Health budget funding was going to Member States but less and less to CSOs. The expert also noted that many CSOs in the sector don't want to speak up because this might appear as a criticism, and they are afraid of being affected by funding cuts. Thus, they do what is requested to allow the funding to keep coming in.

Lessons learnt on the implementation

Regarding the duration of projects, one expert noted that most of the projects are now two years long while before EU4Health, three years used to be the absolute norm. The expert also highlighted that it would be very helpful if HaDEA could provide a consortium agreement template, as drafting it is considered a complex legal task even by quite large EU health platforms.

6.8.4. Fourth focus group – Task 4. Monitoring framework of the EBCP

21st February 2024, 15:00-16:00 CEST (online event)

Participants

Open Evidence, PwC, Experts

Minutes of the meeting

Existing sources and data collection activities

The study team asked the experts for any other important sources of information that may be missing. One expert mentioned that the Eurobarometer reports also provide relevant data on some behavioural factors such as smoking or physical activity. One expert mentioned that the Eurobarometers on tobacco were conducted every 2-3 years.

Outline of the monitoring framework

The study team presented the example of indicators for the EBCP action of the Review of the Tobacco Product Directive and asked the experts whether they agreed with the indicators provided and whether other relevant indicators may be missing.

One expert suggested to add the age group as a variable for the impact indicator 'Prevalence of tobacco and nicotine products users' and also the age of starting smoking. Another expert suggested edits to correct the description of the output indicator 'new measures introduced' with "This output indicator informs on the measures introduced in the TPD, as revised in 2014, such as changes to external packaging, the regulation of characterising flavours and reporting requirements to EU MS". The expert also advised to use an official reference for the target of 'less than 5% smokers by 2020'.

One expert flagged that several proposed legislation revisions foreseen in the EBCP did not go through and asked how this would be reflected. The study team explained that the aim of this task was to build the structure of the monitoring framework of the EBCP, which can be used in the first evaluation of the EBCP, planned by the end of 2024. The evaluation will compare the objectives of the actions planned and their targets with what will be effectively implemented, and will analyse the reasons why specific actions may not have been implemented.

The study team asked the experts whether they would recommend any result indicators that would measure the short-term effects of the actions' implementation. One expert suggested that for directives, an intermediate milestone that could serve as result indicator would be the transposition in the Member States legislation. Another expert mentioned that the impact indicators identified could not be linked directly to the EBCP actions as the timeframe is still too short. The study team confirmed that an ad-hoc study would be needed to conduct a causal estimation of the impacts of the initiative. The impact indicators proposed in the monitoring framework often refer to the overall pillars of EBCP rather than to a specific action. In the case of tobacco smoking prevalence, these indicators are relevant in the context of cancer prevention, and they are affected by all tobacco control policies and not just the review of the TPD. They can serve as context indicators and their trends can be compared over time.

Operationalisation of the monitoring framework

The study team asked feedback on the proposed set-up for collecting data and monitoring progress of the EBCP. The experts agreed that DG SANTE would be best placed to coordinate and centralise the collection of data to monitor progress of the EBCP. Several experts also considered that Member States could report on their actions taken in line with the EBCP and that the existing Expert sub-group on Cancer could be used for these regular updates. For an expert, the collection of data from national authorities could also be done by an external consultant. In case any reporting requirements are introduced for Member States, the experts recommended that this should follow clear guidelines and templates, for example with a questionnaire, a form or a tabular form, avoiding free-text submissions like pdf files which can be difficult to analyse and compare. An expert pointed to the relevant example of the WHO FCTC core questionnaire[329].

The proposal of a yearly monitoring exercise received support from the experts, who suggested that this would be an incentive for the EU and Member States to take action.

[329] WHO Framework Convention on Tobacco Control, WHO FCTC core questionnaire 2023. Available at: Link

6.9. Annex 9: Summary of workshops

6.9.1. First workshop

6th November 2023, 14:00-17:00 CET (hybrid event)

Agenda

13:30 – 14:00	Registration
14:00 – 14:10	Introduction and opening remarks by DG SANTE
14:10 – 14:20	Presentation of the study approach by the project team
14:20 – 14:40	Presentation of the preliminary results on the future-proofing analysis by the project team • *What are the recent and anticipated technological, political and societal developments which may affect the implementation of the EBCP?* • *To what extent is the EBCP adequate to address these developments and which actions could be strengthened or prioritised?*
14:40 – 15:25	Q&A
15:25 – 15:40	Coffee break
15:40 – 16:00	Presentation of the preliminary results on the country analysis by the project team • *What are the national strategies and measures to fight cancer and to what extent are they aligned with the EBCP?* • *What are the barriers for implementation of these measures at national level?* • *How could the European Union further support, coordinate and complement Member States' efforts against cancer?*
16:00 – 16:45	Q&A
16:45 – 17:00	Closing (conclusions, next steps) by the project team

Discussion

Developments affecting the implementation of the EBCP

Technological advances

Some stakeholders suggested to include among the main developments in the field of prevention the administration of hepatitis C pills as important medicines that help reduce cancer. Moreover, it has been stressed that, although their relevance in the field of diagnosis and treatment is increasing, there are still very few biomarkers for cancer currently available. Thus, it has been argued that their emphasis might be slightly reconsidered when analysing the main medical developments in the fight

against cancer. Lastly, stakeholders confirmed that early cancer screenings, in particular for lung cancers, are highly promising.

Policy developments

Some stakeholders pointed out that some additional policies should be considered when looking at the main policy developments in the context of the fight against cancer, such as joint clinical assessments in the context of the Regulation on Health Technology Assessment as well as the EU pharmaceutical strategy, especially as far as orphan cancers and rare cancers are concerned. Similarly, some additional focus should be put on legal initiatives on tobacco consumption, alcohol consumption and nutrition which are highly relevant for prevention.

Societal developments

During the discussion on the main societal developments affecting the fight against cancer, much focus has been put on cancer inequalities. In particular, some stakeholders noted that it would be interesting to consider different kinds of cancers and in particular rare cancers when it comes to inequalities, in order to assess which types are more affected by such phenomenon. Similarly, other stakeholders stressed the importance of considering gender inequalities and racial inequalities, as well as the differences across regions and not only EU countries, as these might be particularly accentuated within some Member States. Moreover, a stakeholder noted that, considering the broader context of social determinants of health, additional socio-economic inequalities could be considered, e.g. poverty levels, housing availability that impact access to healthcare, or the difficulty to afford healthy lifestyles.

Adequacy of the EBCP

Some stakeholders noted that in the current study the overlaps between the objectives of the EBCP and other policies should be also considered, besides those already mentioned such as the European Green Deal or the Farm-to-Fork strategy. Similarly, the aspects related to the interaction between medical research and the industry could be clarified, specifying what kind of industry actors are meant in the Interim Report of the study. Other stakeholders stressed that oncology trainings are needed in certain areas and for certain profiles (e.g. nurses, pharmacists, etc.), and also stressed the importance of data, the care of elderly patients and the need for further collaboration between different stakeholders and policy makers to raise awareness and provide the evidence needed to implement additional legal initiatives.

Country analysis

Overview of national policies

One stakeholder noted that the list of countries having implemented legal initiatives on the right to be forgotten for cancer patients and survivors might be incomplete in the interim presentation provided, as the expert is aware of some additional

countries that have recently adopted such initiatives: by way of example, in Italy a law on the “right to be forgotten” has recently been approved in the Parliament and should be adopted by the end of the year 2023; similarly, it has been noted that Sweden has policies in place according to which cancer survivors cannot be discriminated for job applications, with obligations to contract.

An expert noted that also Norway has started a pilot programme for lung cancer screening. A stakeholder asked clarification on the reason why the cancer screening programmes in place in Slovenia were selected as a best practice. Another stakeholder pointed out that no mirror sessions are currently in place in the Netherlands, suggesting instead to mention mirror groups implemented in Belgium. Finally, a stakeholder stressed that it might be better to use the term ‘good practices’ instead of ‘best practices’.

As far as the presentation on barriers is concerned, some stakeholders asked clarification on the respondents who provided feedback and what was meant by ‘other barriers’. This was particularly relevant for some countries (e.g. Denmark), where the percentage of such barriers was particularly high compared to policy, financial, clinical and other types of barriers.

Monitoring framework

Finally, as far as the monitoring framework is concerned, some stakeholders stressed the importance of defining specific measurements for each goal of the Plan. However, they raised some concerns on how to measure the advancements of the Plan, as these should be differentiated from the final overall outcome. In this context, they also highlighted that causality might be taken into account when monitoring the Plan, as well as real world data, data from national registries and further actions on monitoring from the Cancer Mission and the Joint Action OriON (starting in January 2024 and coordinated by Slovenia).

Lastly, according to some stakeholders, it will be particularly important to differentiate actions in the short term and in the long term: in fact, some stakeholders stressed that, while actions on early detection and diagnosis and treatment have immediate effects, some of the effects of prevention can only be assessed in the long term.

Participants

Stakeholder Group	Number of participants
European institutions	9
International organisations	1
Civil society organisations (public health NGOs)	14
Civil society organisations (patient associations)	2
Civil society organisations (non-profit research organisation)	1
Health professional associations	11
Member States competent authorities	25
Pharmaceutical or health technology industry associations	4

Stakeholder Group	Number of participants
Health technology companies	2
Pharmaceutical companies	8
Experts from Cancer Mission Board	3
Academia	12
Other stakeholder from the Cancer stakeholder contact group	1
Other stakeholders	3
TOTAL	**96**

6.10. Second workshop

18th April 2024, 14:30-17:30 CEST (hybrid event)

Agenda

14:00 – 14:30	Registration
14:30 – 14:40	Introduction and opening remarks by DG SANTE
14:40 – 14:50	Presentation of the study approach by the project team
14:50 – 15:15	Presentation of the results of the case studies on the EU4Health cancer projects by the project team • *What are the lessons learnt and barriers in the application process and implementation of these projects?* • *Can potential recommendations and suggestions for remedial actions be made taking into account the existing EU4Health Regulation?*
15:15 – 16:00	Q&A
16:00 – 16:15	Coffee break
16:15 – 16:40	Presentation of the preliminary monitoring framework by the project team • *Which indicators and data sources are available to measure the progress of the EBCP?* • *Which additional indicators may be needed to monitor the progress of the EBCP, and how to collect them?*
16:40 – 17:25	Q&A
17:25 – 17:30	Closing (conclusions, next steps) by the project team

Discussion

Task 3. Presenation of the case studies on the EU4health cancer projects

One study expert with an NGO health background argued that co-financing might be a problem in some cases. By way of example, the expert noted that in 2023 in a call some partners from Ukraine could not find the 40% of the co-funding and that other members of the consortium had to help. Recently, in some projects with DJ JUST, the co-funding amounted to 90% and this was a game changer. If the 40% needed to be funded, it would not have been possible. The expert then wondered whether the same would be possible in the projects with DG SANTE, as it was with DG JUST. One stakeholder reiterated this point, noting it is struggling to find the 40% of the co-funding. The stakeholder also wondered whether there is any information available on the grouping for the interviewees (to know whether they are grant holders or not). On this point, the study team specified that, although this information was not included in the presentation, the final study report will include it and the full case studies will be published as annexes. Another small NGO noted that the design of the funding mechanism is mainly based on larger institutions. For this reason, the stakeholder was glad to see that training programmes and

guidelines were published. One further step would be a specific set of guidelines for patient organisations to ensure they can support in a smart and sustainable way. Related to this, another stakeholder stressed that the participation of patient associations in joint actions is difficult since affiliated entities must demonstrate a legal connection to competent authorities, which often do not exist. On these points, DG SANTE clarified that the default of the co-funding is 60:40 %, with the exception of 80:20 %. However, for cancer projects this exception is almost the common rule. Moreover, it was specified that 20 % of the co-funding doesn't need to be cash, but can also be contributions in kind. Work of staff can also be counted, while volunteer work may not be counted. Since co-funding is engrained in the regulation, if it was to be changed, the whole regulation would also have to be changed, and the reality is that this could only happen at the end of the programme. Finally, regarding the discussion on funding for Ukrainian partners, it was clarified that, once Ukraine was associated with the programme, there was intention to ensure their involvement in these programmes. This also explains why the participation of Ukraine in many projects was encouraged. It is currently under discussion whether there are any programmes in place to cover their co-financing.

One participant noted that it would be useful to see the same work done on the Mission on Cancer projects within Horizon Europe. The participant also argued that there is often some overlap between cancer actions between EU4Health and Horizon Europe. Thus, information should be shared between the two to avoid overlap, and this needs to be increased despite some good steps which have been already taken. Hence, the participant wondered whether the evaluation of the EBCP should also consider the Horizon Europe projects and not only the EU4Health ones. Another stakeholder agreed on this and added that it is frustrating sometimes to see different projects running in parallel under different programmes (e.g. Horizon Europe, EU4Health, Digital Europe), while there should be one crucial guideline and one recommendation. By way of example, the stakeholder mentioned that for tumour board guidelines there are many similar sets of guidelines, and it was a struggle to combine the work. Although not all these projects were addressing the same question, they should be brought together, so that the deliverable is unique, and not diverse across all of them. DG SANTE clarified on this point that there is already some work ongoing by DG SANTE, DG RTD and HaDEA to bring the consortia together to clarify better the different work packages. Moreover, in grants such as joint actions and calls for proposals, it was specified that the consortia have some flexibility on what they will propose, the Commission indicates some objectives and outcomes but the content of the project is only known when it is evaluated. Additionally, regarding the communication of projects outputs, it was noted that a website was launched last May which showcases all cancer projects under EU4Health. The website has a description, an outcomes section and videos on the ongoing and completed projects organised by pillar. Regarding the evaluation of the Cancer Mission, it was said that it is underway in a more general framework for all the Missions.

One participant wondered whether any good practices that can help were identified and if anything had an impact on how these programmes worked. On this point, the study team noted that all projects were running smoothly. Some interviewees mentioned that the projects managed to group many relevant stakeholders which helped in the learning from each other. It was also mentioned that, if there needed to be an EU harmonisation of guidelines, this was usually facilitated by the projects themselves. A good practice was the early publication of the work programme by DG SANTE, which allowed people to prepare in advance. Establishing the right communication channels with consortia and across different projects was a good practice to ensure the smooth running and helped in delivering the work efficiently and effectively.

Another stakeholder added that procurement, grants, and joint actions need different levels of requirements regarding coordination, especially large joint actions. One stakeholder also argued that there is an interest for large scale consortia in many of the project calls of the EU4Health programme, which might be a positive aspect regarding the dissemination of results and main conclusions. However, echoing previous comments, the stakeholder also argued that the coordination of large projects requires significant management and is not easy. Different levels of engagement of beneficiaries are also problematic. In this sense, smaller consortia are more manageable, and focus more on the quality. However, there might be challenges when one of the partners is not delivering, hence leaving the project exposed. Also, large budgets are often split between a large number of partners. Regarding this last point, HaDEA clarified that they are working on the financial template which will be simplified for completion and reporting.

In light of the issues raised above, DG SANTE clarified that HaDEA is looking into simplifying the administrative burden, although this objective mainly depends on the instrument: procurement has the lowest administrative burden as it is possible to apply even as an individual applicant; calls for proposals are different since EU4Health projects are designed to facilitate cross-country collaboration, meaning that application from one country will be evaluated low; at the top of the scale there are Joint Actions (JA), where it is up to the Member States if they want to participate and who they want to nominate. Regarding the participation of NGOs in JAs, DG SANTE argued that the link between the ministry and NGOs often does not exist, meaning that NGOs are not eligible. An attempt to address this was through the launching a JA and a supporting call for proposals on the same topics to include a few NGOs or other organisations who could not qualify for the JA to also support the JA. Initially, this was launched in parallel, which was a problem as the applying NGO consortium did not know what the JA was doing and had to base their proposal on the text of the work programme. The most recent development was for JA JANE (EU networks of expertise), where, as per the work programme 2024, a call for proposal will be launched to collaborate with JA JANE 2 (launched under work programme 2023), and this time it will be easier for NGOs to know what to propose as we will know better what the JA is doing. A participant asked if a similar parallel call would be done for the JA on the comprehensive cancer centres (CCCs). DG

SANTE specified that for JA JANE, adding the parallel call for proposals had been a specific request from JANE 1, but that there had not been such a request for the JA on CCCs. A stakeholder added that it would be beneficial to know the information on JAs in advance. However, DG SANTE explained that until the grant agreement is signed, all the proceedings on JA are confidential and can only be published once awarded unless the Member States want to publicise themselves. Related to this and specific to patient associations, one of the possibilities suggested by one stakeholder would be to have parallel projects, although this would imply additional administrative burden and also a potential of duplication of efforts, so a better solution could be the possibility to include civil society associations and NGOs in the team of the JA. However, DG SANTE specified that this last solution is not possible due to the nature of the instrument, as JAs are not competitive and MS are in the driving seat and decide who they want to involve, while calls for proposals are competitive, so mixing the two is not feasible in the current structure of the framework. Lastly, it was specified by DG SANTE that all the direct grants to Member States (JAs) are published in the Annual Work EU4Health Programme. Under the 2024 EU4Health Programme, there are support actions for the JA JANE - CR-g-24-96 - Call for proposals to support the establishment of new networks of expertise on cancer and cancer conditions (see JANE - European Commission (europa.eu) for further information).

Task 4. Presentation of the preliminary monitoring framework

One stakeholder believed that the monitoring framework is brilliant when it comes to the stage of proposal which is adopted. However, other cases might be more challenging, such as the adoption by the Commission of the proposal. Indeed, the proposal for the revision of the Tobacco Product Directive was planned for adoption in 2024, which is unlikely as the evaluation is not published yet. The stakeholder then wondered whether there is any indication on when the evaluation will be published. Moreover, the stakeholder wondered how this monitoring framework can be improved: by way of example, what about other proposals that have not been published in accordance with the roadmap? What about indicators on the stages before the proposal has been adopted to ensure transparency and accountability? Can the stages before the legislative proposals are published be taken into consideration into the monitoring framework? Can the costs that Member States are accumulating whilst the proposals are delayed be monitored? How is it possible to integrate the indicators when what was promised has not been delivered (e.g. for tobacco and alcohol policy)? Is there a way to include a justification why certain proposals have not been published? Is there the possibility to explain the actual reasons explaining why a process is taking longer? Regarding these issues, the study team specified that there would need to be a balance considering the administrative burden. In particular, if the monitoring framework is conducted annually, then this would be visible in the reporting, looking directly at whether it is implemented or not rather than the legislative process. Moreover, it was noted that the monitoring framework was developed for all pillars and cross-cutting themes. In

this regard, DG SANTE also specified that the evaluation of the Tobacco Products Directive is still ongoing and that they cannot provide dates in 2025, as the current Commission cannot commit for the next one. The roadmap is foreseen to show progress and milestones, and links to existing projects. In this sense, they noted that caution is needed if the framework should be updated regularly because of the workload. If data that are updated and are regularly available are considered, and indicators that must be created for this purpose are created, then the workload might increase significantly.

Another stakeholder wondered how the study team will maintain the monitoring framework over the years and whether this will be a manual process. Moreover, it was noted that the framework might also be good not only to measure what happened but also to steer the future course of action. In this sense, if something doesn't happen, the framework might indicate what are the incentives to drive for the future. In this regard, the study team specified that the framework is intended to monitor what has been happening, but not adjustments and proposals, since it is mostly related to metrics that inform recent and past trends. Regarding the maintenance, the framework is only a proposal which needs to be validated by DG SANTE. In any case, the collection would be largely manual as it includes both databases and academic literature. Also, if it is done regularly, it could still be used to inform on whether everything is happening as planned or whether future action is needed. The monitoring could also feed the review/evaluation as a measurement regarding its effectiveness and efficiency.

One stakeholder wondered whether, since many data sources were listed, the team came across other sources that were not used in the end (e.g. OECD). Moreover, the stakeholder wondered whether there was an exchange with Member States and what data the team was tracking which could help with quality assurance but also support the flow of data. Another stakeholder also asked how this data could be streamlined, since there were a lot of useful data to consider. By way of example, the OECD health statistics are much broader that the inequalities registry. In this regard, the study team specified that some of the information provided by the OECD is derived from sources which were already mapped. Moreover, another participant noted that another relevant source is the European Cancer Pulse, where some of the databases that are mapped are already covered, but that could be considered a nice addition. In terms of streamlining and data collection, one of the issues is that not all the indicators will be updated at the same time. The team proposed an annual update, but this would only lead to a partial computation. Moreover, the JA OriON is covering monitoring at Member States level, while this monitoring framework of this study is focused on the EU level. Additionally, the team noted that the indicators were already existing. To link them, the team started with the implementation of the EBCP. Based upon research and inputs from the experts, the team then computed this linkage to specific actions.

One stakeholder asked whether it could be possible to visualise the status according to pillars and whether this could be integrated into a graph to show which outputs

have been delivered by percentage. On this point, the study team noted that a dashboard tool could be considered regarding the progress of actions which have started, are progressing or being implemented. Another stakeholder noted that it would also be important to communicate the results to Member States to keep them motivated to run actions and have continuum on this, since there might be political shift to other disease areas and it should be ensured that the progress is visible before shifting to other focuses. In any case, the study team noted that the Plan is supposed to continue for a few years, so the monitoring will continue. In this sense, there might be improvements although it is unclear now what direction will be taken with the 2024 elections. Indeed, the team only provided the tool, which might need to be updated, new sources might emerge, and some things will be finally done. Basically, the framework was intended as an evolving tool. In this regard, DG SANTE specified indeed that the aim of the study was to make a proposal for the framework. Such a framework is important for the formal evaluation of the EBCP, given that, if there is an evaluation, the Commission needs such a framework. Since this work is not confidential, the results will be published. However, since this is a procurement project, the results are published only after project end. The study will be finalised soon, the Commission will analyse it in detail and around the end of this year or early next year it will publish a Commission document together with the study. Normally, there will be another contract for the evaluation of the EBCP, in order to assess whether any revision of the Plan is needed.

Participants

Stakeholder Group	Number of participants
European institutions	13
International organisations	1
Civil society organisations (public health NGOs)	20
Civil society organisations (patient associations)	1
Health professional associations	10
Member States competent authorities	35
Pharmaceutical or health technology industry associations	5
Health technology companies	1
Pharmaceutical companies	7
Experts from Cancer Mission Board	1
Academia	14
Other stakeholders	4
TOTAL	**112**

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