

Mission: Cancer

The goal of the Mission on Cancer is to improve the lives of more than 3 million people by 2030, through prevention, cure and for those affected by cancer including their families, to live longer and better. The objectives include: Understand; Prevent what is preventable; Optimise diagnostics and treatment; Support quality of life; Ensure equitable access in all aforementioned areas. The Mission on Cancer will address all cancers including poorly-understood cancers²³ in men and women, cancers in children, adolescents and young adults as well as in the elderly, cancers in socio-economically vulnerable populations, living in either cities, rural or remote areas, across all Member States and Associated countries.

The Mission on Cancer is implemented using a health-in-all policies approach²⁴; through infrastructure support; regional, social and citizen community development; through investments; support and commitments from public and private sources, including from Member States, Associated countries and industry; through cooperation with third countries; and through synergies with other existing EU programmes including EU4HEALTH, EURATOM, Digital Europe, Erasmus+, the EU Strategic Framework on Health and Safety at Work 2021-2027 and other initiatives related to cancer.

It also relates to the European Green Deal, including the Farm to Fork strategy²⁵. The mission proposes research and policy directions and objectives to identify effective strategies for the development and implementation of cancer prevention, including on environmental factors (e.g. exposure to workplace carcinogens, air pollution, unhealthy diet, nutrition and low physical activity).

Furthermore, it is also in line with the industrial²⁶ and digitalisation strategy²⁷. The mission proposes a further upscaling and digitalisation of services, innovation in diagnostics and interventions, and establishing living labs, contributing to the positive impact of efforts by industry and SMEs on the health of citizens. Envisaged opportunities are in the fields of: cancer biomarkers; cloud computing and digital applications, smart apps/sensors. The mission also supports the integration of AI, machine learning and deep learning approaches to facilitate a better understanding of cancer, to improve prevention screening and early detection, diagnosis, clinical decision-making, administration of combinational therapies, and clinical management of patients living with and after cancer.

²³ Includes refractory cancers or cancer subtypes, at any stage of the disease in any age group and part of society with a 5-year overall survival that is less than 50% from time of diagnosis.

²⁴ Health in All Policies is an approach to public policies across sectors that systematically takes into account the health implications of decisions, seeks synergies, and avoids harmful health impacts in order to improve population health and health equity.
https://www.who.int/social_determinants/publications/health-policies-manual/key-messages-en.pdf

²⁵ https://ec.europa.eu/food/farm2fork_en

²⁶ https://ec.europa.eu/info/strategy/priorities-2019-2024/europe-fit-digital-age/european-industrial-strategy_en

²⁷ https://ec.europa.eu/info/strategy/priorities-2019-2024/europe-fit-digital-age_en

Calls for proposals under this mission should contribute to setting out a credible pathway for implementing the Mission on Cancer, thereby contributing to mission objectives.

Proposals for topics under this Mission should set out a credible pathway to improving Cancer control, and more specifically to all of the following impacts:

- Improve understanding of the development of cancer in the context of the environment, work, and lifestyle in the broadest possible sense,
- Enhance cross-policy cancer prevention strategies,
- Optimise the diagnostics and treatment of cancer based on the principle of equitable access,
- Improve the quality of life of cancer patients, survivors and their families through widely analysing all key factors and needs that are related to the quality of life,
- Accelerate the digital transformation of research, innovation and health systems.

The implementation plan specifies the goal and four main objectives as well as implementation details of the Mission on Cancer²⁸.

In the calls described below, the Commission envisages several actions²⁹: On the Cancer Mission objective *Understanding*, the Commission plans to address tumour-host interactions to enhance prevention, treatment and care interventions in poorly-understood childhood as well as adult cancer patients. On the Cancer Mission objective *Prevention*, the Commission foresees an action on behaviour change. On the Cancer Mission objective *Diagnosis and treatment*, the Commission envisages an action on minimally invasive diagnostics, which will also improve the quality of life. On the Cancer Mission objective *Quality of life*, the Commission envisages to enhance the quality of life for survivors of childhood cancer by setting up oncology-centred living labs. The society will benefit from a reduced burden of cancer and solving healthcare barriers.

The following call(s) in this work programme contribute to this Mission:

Call	Budgets (EUR million)	Deadline(s)
	2023	
HORIZON-MISS-2023-CANCER-01	110.68	12 Apr 2023
Overall indicative budget	110.68	

²⁸

https://ec.europa.eu/info/sites/default/files/research_and_innovation/funding/documents/cancer_implementation_plan_for_publication_final_v2.pdf

²⁹

The listed areas for potential actions are tentative and non-binding.

Call - Research and Innovation actions supporting the implementation of the Mission on Cancer

HORIZON-MISS-2023-CANCER-01

Conditions for the Call

Indicative budget(s)³⁰

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million) ³¹	Indicative number of projects expected to be funded
		2023		
Opening: 12 Jan 2023 Deadline(s): 12 Apr 2023				
HORIZON-MISS-2023-CANCER-01-01	RIA	36.68 ³²	7.00 to 12.00	4
HORIZON-MISS-2023-CANCER-01-02	RIA	25.00 ³³	4.00 to 6.00	5
HORIZON-MISS-2023-CANCER-01-03	RIA	43.00 ³⁴	6.00 to 8.00	7
HORIZON-MISS-2023-CANCER-01-04	IA	6.00 ³⁵	Around 6.00	1
Overall indicative budget		110.68		

General conditions relating to this call

³⁰ The Director-General responsible for the call may decide to open the call up to one month prior to or after the envisaged date(s) of opening.

The Director-General responsible may delay the deadline(s) by up to two months.

All deadlines are at 17.00.00 Brussels local time.

The budget amounts are subject to the availability of the appropriations provided for in the general budget of the Union for years 2023 and 2024.

³¹ Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.

³² Of which EUR 1.39 million from the 'Digital, Industry and Space' budget and EUR 34.74 million from the 'Health' budget and EUR 0.55 million from the 'Culture, Creativity and Inclusive Society' budget.

³³ Of which EUR 0.56 million from the 'Digital, Industry and Space' budget and EUR 23.68 million from the 'Health' budget and EUR 0.77 million from the 'Culture, Creativity and Inclusive Society' budget.

³⁴ Of which EUR 1.32 million from the 'Digital, Industry and Space' budget and EUR 40.72 million from the 'Health' budget and EUR 0.96 million from the 'Culture, Creativity and Inclusive Society' budget.

³⁵ Of which EUR 0.13 million from the 'Digital, Industry and Space' budget and EUR 5.68 million from the 'Health' budget and EUR 0.18 million from the 'Culture, Creativity and Inclusive Society' budget.

Horizon Europe - Work Programme 2023-2024
Missions

<i>Admissibility conditions</i>	The conditions are described in General Annex A.
<i>Eligibility conditions</i>	The conditions are described in General Annex B.
<i>Financial and operational capacity and exclusion</i>	The criteria are described in General Annex C.
<i>Award criteria</i>	The criteria are described in General Annex D.
<i>Documents</i>	The documents are described in General Annex E.
<i>Procedure</i>	The procedure is described in General Annex F.
<i>Legal and financial set-up of the Grant Agreements</i>	The rules are described in General Annex G.

Proposals are invited against the following topic(s):

HORIZON-MISS-2023-CANCER-01-01: Addressing poorly-understood tumour-host interactions to enhance immune system-centred treatment and care interventions in childhood, adolescent, adult and elderly cancer patients.

Specific conditions	
<i>Expected EU contribution per project</i>	The Commission estimates that an EU contribution of between EUR 7.00 and 12.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
<i>Indicative budget</i>	The total indicative budget for the topic is EUR 36.68 million.
<i>Type of Action</i>	Research and Innovation Actions
<i>Award criteria</i>	The criteria are described in General Annex D. The following exceptions apply: The thresholds for each criterion will be 4 (Excellence), 4 (Impact) and 3 (Implementation). The cumulative threshold will be 12.
<i>Procedure</i>	The procedure is described in General Annex F. The following exceptions apply:

	In order to ensure a balanced Cancer Mission project portfolio and to achieve the Mission’s goal, grants will be awarded to applications not only in order of ranking but also to at least one application that fully addresses cancer in children, adolescents or young adults (meaning people between birth and the age of 24), provided that the application attains all thresholds.
<i>Exceptional page limits to proposals/applications</i>	The page limit of the applications is 70 pages.

Expected Outcome: Proposals under this topic should aim to deliver results that are directed and tailored towards, and to contribute to all of the following expected outcomes:

- Researchers and health professionals understand tumour-host processes that spur cancer development and progression in patients and how this forms the basis for the future design and optimisation of treatment or care interventions for poorly-understood cancers and their subtypes, including in children, adolescents, adults and the elderly.
- Researchers, innovators, and professionals from different disciplines and sectors ensure accessibility and re-usability of their data, models, tools and technology to support the UNCAN.eu³⁶ platform, which is currently in preparation.
- Health policy makers are aware of an improved understanding of tumour-host interactions in cancer patients that would allow the co-design of cancer-related innovation and health policies in the Member States, Associated Countries and beyond, including those aimed at delivering treatment and care developing care solutions for and with cancer patients.

Scope: This topic will contribute to the achievement of the Mission’s objective to better understand cancer by studying tumour-host interactions underpinning the development and progression of cancer, including in advanced localised or metastatic disease. The focus should be on poorly-understood³⁷ cancers and their subtypes in children, adolescents, adults and the elderly.

Despite important progress and recent successes with, for example immune system-centred therapeutic interventions³⁸ understanding of tumour-host interactions in cancer patients remains incomplete. Challenges include uncovering which patients benefit from interventions or risk potentially debilitating side-effects, as well as ensuring affordability of interventions

³⁶ Under the Mission work programme a Europe-wide research and data platform, UNCAN.eu, will be established, utilising existing, relevant research infrastructures. Once operational, the platform should enable integration of innovative models and technologies with longitudinal patient data, data beyond research, or the health domain, samples and biomarkers for translation to patients. The 4.UNCAN.eu project is preparing a blueprint. See: <https://cordis.europa.eu/project/id/101069496>

³⁷ Includes refractory cancers and their subtypes, at any stage of the disease in any age group and part of society, with a 5-year overall survival less than 50% from time of diagnosis.

³⁸ Such as cell-based and oncolytic viral therapy, therapeutic antibodies, therapeutic DNA, RNA and peptide vaccines; and multimodal interventions combining surgery, chemotherapy, and radiotherapy with immune system-centred interventions

across Europe, across all age groups. This requires a new dimension and level of investment in innovative research with a view to intercept disease. It also requires investing in high-risk, high-reward research projects to deliver a proof-of-concept of potentially disruptive new approaches. These approaches include monitoring treatment and disease progression and disclosing disease pathways, such as through single-cell -omics technologies, innovative disease models, advanced imaging technologies, or artificial intelligence and machine learning.

Proposals should address all of the following:

- Obtain a systematic understanding of processes underpinning tumour-host interactions in poorly-understood cancers and their subtypes in childhood, adolescent, adult and elderly cancer patients. Applicants should take into account social, ethnical, cultural and gender aspects, with a focus on the transition from a healthy state to cancer initiation and progression, including in advanced localised or metastatic disease (where relevant), using any relevant *in silico*, *in vitro*, *in vivo*, *ex vivo*, preclinical, or clinical disease models as well as computational, simulation and visualisation tools and technologies where appropriate.
- Combine knowledge and high-quality data from biomedical and clinical studies, and real-world data, using advanced digital tools and technologies such as computer modelling and artificial intelligence with the objective to understand relevant tumour-host interactions and their impact on treatment and care solutions for cancer patients.
- Demonstrate access to and use of multiple comprehensive databases in and beyond health research or health domains. Proposals should build on longitudinal clinically annotated, stratified patient cohorts, case-control studies, biobanks, registries and many other initiatives³⁹, use state-of-the art digital and other tools for data analyses and modelling, wherever possible.
- Based on results obtained, propose socially acceptable, affordable novel treatment or care interventions or health technologies for uptake into health systems in the areas of treatment or care, using approaches that involve the end-user using participative research models.

This topic requires the effective contribution of SSH disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities.

Due consideration should be given to EU-funded initiatives such as: HealthyCloud⁴⁰, EOSC-Life⁴¹, the Photonics21 partnership – including its Photon Hub Europe support service⁴², the

³⁹ Many retrospective, prospective cohorts, case-control studies and initiatives -in health and well-beyond health- at local, regional, national, European and international level, exist.

⁴⁰ <https://healthycloud.eu/>

⁴¹ <https://www.eosc-life.eu>

⁴² <https://www.photonics21.org/index.php>; Photon Hub Europe: <https://www.photonhub.eu>

Innovative Health Initiative partnership⁴³, the European Health Data Space (EHDS) Joint Action⁴⁴, 1+ Million Genomes (1+MG)⁴⁵ / Beyond One Million Genomes (B1MG)⁴⁶, the EBrains⁴⁷ research infrastructure and the EIT Health Knowledge Innovation Community initiatives⁴⁸. Links with the research infrastructure projects EOSC4cancer⁴⁹ and canSERV⁵⁰, as well as projects funded by other EU programmes⁵¹ are encouraged.

Successful applicants will be asked to liaise with these and other initiatives where applicable⁵². The successful proposals are expected to liaise with and build on resources made available by the Knowledge Centre on Cancer (KCC)⁵³ in order to foster EU alignment and coordination.

The Commission will facilitate Mission-specific coordination through future actions, notably fostering exchanges with other proposals funded under this topic. Hence, successful applicants will be asked to join the 'Understanding' cluster for the Mission on Cancer established in 2022⁵⁴. In this regard, the Commission will take on the role of facilitator, including with relevant initiatives and stakeholders, if appropriate.

Therefore, proposals should include a budget for networking, attendance at meetings, and potential joint activities without the prerequisite to give details of these at this stage. Examples of these activities are the organisation of joint workshops, the exchange of knowledge, the establishment of best practices, or the initiation of joint communication activities with projects funded under other clusters and pillars of Horizon Europe, or other EU programmes, as appropriate. The details of joint activities will be defined during the grant agreement preparation phase and during the life of the project.

HORIZON-MISS-2023-CANCER-01-02: Enhance primary cancer prevention through sustainable behavioural change

Specific conditions

⁴³ <https://www.ih.europa.eu/>

⁴⁴ <https://tehdas.eu/>

⁴⁵ <https://digital-strategy.ec.europa.eu/en/policies/1-million-genomes>

⁴⁶ <https://b1mg-project.eu/>

⁴⁷ <https://ebrains.eu/>

⁴⁸ <https://eithealth.eu/who-we-are/>

⁴⁹ <https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/how-to-participate/org-details/999999999/project/101058427/program/43108390/details>

⁵⁰ <https://cordis.europa.eu/project/id/101058620>

⁵¹ E.g. pilot projects on artificial intelligence for diagnosis and treatment of paediatric cancer selected for funding from the calls PPPA-AIPC-2020 and PPPA-AIPC-2021; Joint Action “JANE” under the EU4Health programme (“Network of Comprehensive Cancer Centres: Establishment of new EU Network of Expertise on Cancers and Cancer Conditions”).

⁵² Applicants are not expected to contact these initiatives before the submission of proposals.

⁵³ Hosted by the European Commission's Joint Research Centre (JRC). Especially through the 'European Guidelines and Quality Assurance Schemes for Breast, Colorectal and Cervical Cancer Screening and Diagnosis', and the 'European Cancer Information System (ECIS)' and the 'European Cancer Inequalities Registry (ECIR), see https://knowledge4policy.ec.europa.eu/cancer_en

⁵⁴ In order to address the objectives of the Mission on Cancer, participants will collaborate in project clusters to leverage EU-funding, increase networking across sectors and disciplines, and establish a portfolio of Cancer Mission R&I and policy actions.

*Horizon Europe - Work Programme 2023-2024
Missions*

<i>Expected EU contribution per project</i>	The Commission estimates that an EU contribution of between EUR 4.00 and 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
<i>Indicative budget</i>	The total indicative budget for the topic is EUR 25.00 million.
<i>Type of Action</i>	Research and Innovation Actions
<i>Award criteria</i>	The criteria are described in General Annex D. The following exceptions apply: The thresholds for each criterion will be 4 (Excellence), 4 (Impact) and 3 (Implementation). The cumulative threshold will be 12.
<i>Procedure</i>	The procedure is described in General Annex F. The following exceptions apply: In order to ensure a balanced Cancer Mission project portfolio and to achieve the Mission's goal, grants will be awarded to applications not only in order of ranking but also to at least one application that fully addresses cancer in children, adolescents or young adults (meaning people between birth and the age of 24), provided that the application attains all thresholds.

Expected Outcome: Enhance interventions and scale these up in different geographical, socio-economic and cultural settings as well as in different environmental conditions. Proposals should aim to deliver results through sustainable behavioural change, which are directed and tailored towards and contribute to all of the following expected outcomes:

- Citizens, including people at high risk of developing cancer, cancer patients and survivors benefit from health promotion and primary prevention programmes that reflect behavioural change and psycho-social approaches tailored to the specific needs of different population groups both in urban and rural areas;
- Citizens, including people at high risk of developing cancer, cancer patients and cancer survivors benefit from easy-to-understand and accessible, tailored recommendations and support programmes on sustainable behavioural changes⁵⁵, including psycho-social care, that are easy to implement in their daily lives, including through the use of digital tools to facilitate healthier choices;
- Regional, local and national policymakers and authorities, promote healthy environments⁵⁶ as well as design and implement the most suitable, sustainable health

⁵⁵ For example: OECD (2017), Behavioural Insights and Public Policy: Lessons from Around the World, OECD Publishing, Paris, <https://doi.org/10.1787/9789264270480-en>; https://knowledge4policy.ec.europa.eu/behavioural-insights/topic/behavioural-insights-health_en

⁵⁶ Such as living, work, study and urban environments, etc.

promotion and prevention programmes, which take account of behavioural change and psycho-social requirements.

Scope: With about 40% of cancer cases being preventable⁵⁷, prevention represents the most cost-efficient and sustainable cancer control strategy. The Mission on Cancer and Europe's Beating Cancer Plan aim to exploit the potential of primary cancer prevention by addressing key risk factors and health determinants⁵⁸.

Achieving sustainable behavioural change can play a major role in enhancing the impact of health promotion and preventive measures and thus contribute to reducing the number of preventable cancer cases. Despite having access to peer-reviewed existing evidence and recommendations⁵⁹ on cancer prevention, widely accepted by policymakers across the EU, their uptake to effectively change behaviour needs to be enhanced.

In the past, evidence on how to achieve behavioural change has not been sufficiently taken into account when designing health promotion and primary prevention programmes. This is because behavioural change is a complex challenge, which is subject to manifold influences that could be better understood at individual and systems level, through public engagement and interdisciplinary approaches.

This requires a systemic approach involving all the main actors at different levels who can facilitate sustainable behavioural change including public authorities, policymakers, health care providers, employers, educational institutions, industry, non-governmental consumer and patient organisations, citizens and media.

Investments are needed to establish, scale-up or improve health promotion and cancer prevention programmes through increased awareness among citizens about cancer risk factors and related behavioural change, with a focus on hard-to-reach and vulnerable groups of the population.

Proposals should further address all of the following:

- Develop, test and evaluate the effective impacts of innovative primary cancer prevention programmes, possibly through the use of novel, including digital, solutions⁶⁰, for different population groups which should be involved in the design;
- Provide evidence-based cost-benefit analyses of the proposed programmes;
- Identify and address specific bottlenecks and barriers that prevent the uptake of sustainable behavioural change for different target populations, taking into account

⁵⁷ Soerjomataram et al. (2018). <https://pubmed.ncbi.nlm.nih.gov/30445359/>

⁵⁸ All known risk factors and health determinants, including socio-economic and commercial ones, e.g.: tobacco; alcohol; genetics; bacterial and viral pathogens; chemicals from air, soil, water, and food; physical inactivity; diet and nutrition; gut dysbiosis; behavioural patterns; exposure to ionising radiation, UV, radon; occupational exposure; socio-economic background, education, employment.

⁵⁹ For example: <https://policydatabase.wcrf.org/>

⁶⁰ Such as e-learning platforms, apps and wearables

sectorial, socio-economic, cultural and geographical⁶¹ conditions as well as gender and age;

- Identify the most appropriate actors and develop incentives promoting sustainable behavioural change, such as increasing the uptake of the European Code against Cancer⁶²;
- Assess and validate parameters and factors facilitating or impeding behavioural change, and measure their impact;
- In addition, attention should be paid to health determinants, including occupational and environmental factors (e.g. pollution). Furthermore, education, socio-economic status, gender, age, and inequalities to access prevention programmes, which affects for example elderly people, people with disabilities, or minorities and people living in rural areas should be taken into consideration.
- Approaches on how to best reach and involve disadvantaged socio-economic population groups, vulnerable groups, and people living in rural areas, should be developed.

This topic requires the effective contribution of SSH disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities.

Due consideration should be given to EU-funded initiatives such as: the Climate-neutral and Smart Cities Mission, the Soil Health and Food Mission, as well as the successful proposals resulting from the topics HORIZON-MISS-2022-CANCER-01-01 (*Improving and upscaling primary prevention of cancer through implementation research*), known by mid-2023, and HORIZON-CL6-2021-FARM2FORK-01-15 (*Transition to healthy and sustainable dietary behaviour*)⁶³. Activities should, where appropriate, complement the EU Non-Communicable Diseases Initiative “Healthier together”⁶⁴.

Successful applicants will be asked to liaise with these and other initiatives where applicable⁶⁵. The successful proposals are expected to liaise with and build on resources made available by the Knowledge Centre on Cancer (KCC)⁶⁶ in order to foster EU alignment and coordination.

⁶¹ Across and within countries, covering the urban-rural dimension.

⁶² [European Code Against Cancer - International Agency for Research on Cancer \(IARC\). European Commission: 12 ways to reduce your cancer risk.](#)

⁶³ Proposals FEAST and PLANEAT, see: <https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl6-2021-farm2fork-01-15>

⁶⁴ https://health.ec.europa.eu/non-communicable-diseases_en

⁶⁵ Applicants are not expected to contact these initiatives before the submission of proposals

⁶⁶ Hosted by the European Commission's Joint Research Centre (JRC). Especially through the 'European Guidelines and Quality Assurance Schemes for Breast, Colorectal and Cervical Cancer Screening and Diagnosis', and the 'European Cancer Information System (ECIS)' and the 'European Cancer Inequalities Registry (ECIR), see https://knowledge4policy.ec.europa.eu/cancer_en

The Commission will facilitate Mission-specific coordination through future actions, notably fostering exchanges with other proposals funded under this topic. Hence, successful applicants will be asked to join the ‘Prevention’ cluster for the Mission on Cancer, established in 2022⁶⁷. In this regard, the Commission will take on the role of facilitator, including with relevant initiatives and stakeholders, if appropriate.

Therefore, proposals should include a budget for networking, attendance at meetings, and potential joint activities without the prerequisite to give details of these at this stage. Examples of these activities are the organisation of joint workshops, the exchange of knowledge, the establishment of best practices, or the initiation of joint communication activities with projects funded under other clusters and pillars of Horizon Europe, or other EU programmes, as appropriate. The details of joint activities will be defined during the grant agreement preparation phase and during the life of the project.

HORIZON-MISS-2023-CANCER-01-03: Pragmatic clinical trials on minimally invasive diagnostics

Specific conditions	
<i>Expected EU contribution per project</i>	The Commission estimates that an EU contribution of between EUR 6.00 and 8.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
<i>Indicative budget</i>	The total indicative budget for the topic is EUR 43.00 million.
<i>Type of Action</i>	Research and Innovation Actions
<i>Award criteria</i>	The criteria are described in General Annex D. The following exceptions apply: The thresholds for each criterion will be 4 (Excellence), 4 (Impact) and 3 (Implementation). The cumulative threshold will be 12.
<i>Procedure</i>	The procedure is described in General Annex F. The following exceptions apply: In order to ensure a balanced Cancer Mission project portfolio and to achieve the Mission’s goal, grants will be awarded to applications not only in order of ranking but also to at least two applications that fully address cancer in children, adolescents or young adults (meaning people between birth and the age of 24), provided that the applications attain all thresholds.

⁶⁷ In order to address the objectives of the Mission on Cancer, participants will collaborate in project clusters to leverage EU-funding, increase networking across sectors and disciplines, and establish a portfolio of Cancer Mission R&I and policy actions.

Expected Outcome: Proposals under this topic should aim to deliver results that are directed and tailored towards and contribute to all of the following expected outcomes:

- Cancer patients and their caregivers have access to optimised and affordable, minimally-invasive diagnostic interventions that increase their quality of life, across European regions, Member States and Associated Countries;
- Healthcare professionals and academia deliver better outcomes through routine healthcare, including quality of life, for men and women with cancer who often suffer from sex-related co-morbidities and side-effects;
- National healthcare providers, policymakers and authorities in European regions, Member States and Associated Countries will have the evidence to implement optimised and affordable minimally-invasive diagnostics in their healthcare systems, including in everyday medical practice.

Scope: While cancer research and innovation have generated novel treatment options, cancer patients across Europe need access to minimally-invasive, patient-centred diagnostic interventions which keep up with increasing demand in a complex and fragmented oncology healthcare landscape with increasing healthcare costs.

Furthermore, the COVID-19 pandemic with its detrimental impact on cancer control has demonstrated the need for different clinical trial designs with fewer inclusion and exclusion criteria that would allow for the evaluation of real-world effectiveness, driving better and affordable diagnostic solutions that are widely accessible across European regions, Member States and Associated Countries.

Healthcare professionals and academia generate clinical evidence, by evaluating effectiveness in randomised or cluster-randomised academic investigator-initiated⁶⁸ pragmatic clinical trials, on how to best perform and deploy evidence-based, minimally-invasive diagnostic interventions.

Pragmatic clinical trials focus on choosing between care options. Pragmatic trials evaluate effectiveness, the effect of diagnostics in routine (real-world) clinical practice.

Proposals should address all of the following:

- Design and conduct randomised or cluster-randomised academic investigator-initiated pragmatic clinical trials to deliver effective and evidence-based diagnostic interventions for implementation by healthcare systems at the level of local communities, European regions, Member States and Associated Countries, taking into account stratification, such as biology, molecular features, sex, gender, cancer stage, and age. Clinical trial design and conduct could be aided by computational, simulation and visualisation tools and technologies where appropriate.

⁶⁸ Clinical trials in which a health technology (e.g. a medicinal product, a medical device, an in-vitro diagnostic medical device, a surgical or other medical intervention) is tested in humans, independently from commercial interest and for public health benefits.

- The chosen diagnostic intervention(s) should be adapted to the particular needs of the target population and to the specificities of the provision of care at local, regional, or national level, duly reflecting the diversity across Member States and Associated Countries. Furthermore, affordability and accessibility should be taken into account.
- The successful proposals should clearly justify and describe the evidence supporting the chosen diagnostic intervention.
- The primary and secondary endpoints of the pragmatic clinical trial should support overall survival, patient-reported outcomes and quality of life issues considered important by and for cancer patients and their caregivers.
- Such endpoints should be defined together with patients and their caregivers through research that uses open knowledge, (social) innovation systems and support end-user engagement, such as living labs⁶⁹ or other participative research models.
- These pragmatic clinical trials should include stakeholders such as physicians, academia, patients and their caregivers, patient representatives, SMEs, insurance companies, charities and foundations, research organisations, civil society, regional and national research, innovation and health authorities.
- Successful pragmatic clinical trials, including their analyses, should be completed within 5 years from the start of the project. Translational research is not within the scope of this topic.
- In all instances, sex- and gender-related issues must be taken into account. All data should be disaggregated by sex, gender, age and other relevant variables, such as by measures of socio-economic status or ethnicity.

This topic requires the effective contribution of SSH disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities.

The successful proposals are expected to liaise with and build on resources made available by the Knowledge Centre on Cancer (KCC)⁷⁰ in order to foster EU alignment and coordination.

The Commission will facilitate Mission-specific coordination through future actions, notably fostering exchanges with other proposals funded under this topic. Hence, successful applicants will be asked to join the 'Diagnosis and Treatment' cluster for the Mission on

⁶⁹ <https://enoll.org/>

⁷⁰ Hosted by the European Commission's Joint Research Centre (JRC). Especially through the 'European Guidelines and Quality Assurance Schemes for Breast, Colorectal and Cervical Cancer Screening and Diagnosis', and the 'European Cancer Information System (ECIS)' and the 'European Cancer Inequalities Registry (ECIR)', see https://knowledge4policy.ec.europa.eu/cancer_en

Cancer⁷¹. In this regard, the Commission will take on the role of facilitator, including with relevant initiatives and stakeholders, if appropriate.

Therefore, proposals should include a budget for networking, attendance at meetings, and potential joint activities without the prerequisite to give details of these at this stage. Examples of these activities are the organisation of joint workshops, the exchange of knowledge, the establishment of best practices, or the initiation of joint communication activities with projects funded under other clusters and pillars of Horizon Europe, or other EU programmes, as appropriate.

The details of joint activities will be defined during the grant agreement preparation phase and during the life of the project.

HORIZON-MISS-2023-CANCER-01-04: Establish best practices and tools to improve the quality of life for childhood cancer patients, survivors and their families in European regions

Specific conditions	
<i>Expected EU contribution per project</i>	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
<i>Indicative budget</i>	The total indicative budget for the topic is EUR 6.00 million.
<i>Type of Action</i>	Innovation Actions
<i>Eligibility conditions</i>	The conditions are described in General Annex B. The following exceptions apply: A written commitment is required from the participating regions in which the action proposed will be implemented, expressed by a letter of intent annexed to the proposal and signed by the corresponding authority/ies.
<i>Award criteria</i>	The criteria are described in General Annex D. The following exceptions apply: The thresholds for each criterion will be 4 (Excellence), 4 (Impact) and 3 (Implementation). The cumulative threshold will be 12.

Expected Outcome: Proposals under this topic should aim to deliver results that are directed and tailored towards and contribute to all of the following expected outcomes

⁷¹ In order to address the objectives of the Mission on Cancer, participants will collaborate in project clusters to leverage EU-funding, increase networking across sectors and disciplines, and establish a portfolio of Cancer Mission R&I and policy actions.

- Childhood cancer patients, survivors and their families benefit from enhanced quality of life through better supportive care, personalised counselling approaches, and digital tools that are accessible and affordable. Consequently, they can better achieve their values and personal life goals.
- Health care professionals, supportive workers and councillors enhance the quality of life for childhood cancer patients, survivors and their families.

Scope: Best practices and tools to improve the quality of life for survivors of childhood cancer exist at national, regional and local level. These practices and tools should be scaled up or deployed in regions in at least three different Member States or Associated Countries in order to serve as demonstrators for wider uptake.

Proposals should address all of the following:

- Best practices and validated tools (such as digital tools) related to for example education, sports, employment, medical follow-up including mental and physical health and well-being, or reproductive matters, should be tested and scaled up in regions in at least three different Member States or Associated Countries;
- Address hurdles, factors and situations that impede implementation of good practices and tools in real-life settings with the intention to make the life of childhood cancer survivors easier and better. Effectiveness and general applicability should be assessed and evaluated to provide enhanced real solutions in practice;
- Attention should be paid to social and health determinants, including sex, gender, age and other relevant variables, such as socio-economic status, living in rural or remote areas and education;
- Several best practices and tools should be chosen and scaled up together with childhood cancer survivors and their families. The use of participative research models, such as oncology-centred living labs⁷² or other approaches to deliver (social) innovation should be considered.

This topic requires the effective contribution of SSH disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities.

The successful proposal is expected to liaise with and build on resources made available by the Knowledge Centre on Cancer (KCC)⁷³ in order to foster EU alignment and coordination.

⁷² <https://enoll.org/>

⁷³ Hosted by the European Commission's Joint Research Centre (JRC). Especially through the 'European Guidelines and Quality Assurance Schemes for Breast, Colorectal and Cervical Cancer Screening and Diagnosis', and the 'European Cancer Information System (ECIS)' and the 'European Cancer Inequalities Registry (ECIR), see https://knowledge4policy.ec.europa.eu/cancer_en

Successful applicants should closely monitor and take into account the outcomes of the project supported under topic HORIZON-MISS-2021-CANCER-02-02, (*Develop and validate a set of quality of life and patient preference measures for cancer patients and survivors*⁷⁴).

The Commission will facilitate Mission-specific coordination through future actions. Hence, successful applicants will be asked to join the ‘Quality of life’ cluster for the Mission on Cancer together with the aforementioned project⁷⁵. In this regard, the Commission will take on the role of facilitator, including with relevant initiatives and stakeholders, if appropriate.

Therefore, proposals should include a budget for networking, attendance at meetings, and potential joint activities without the prerequisite to give details of these at this stage. Examples of these activities are the organisation of joint workshops, the exchange of knowledge, the establishment best practices, or the initiation of joint communication activities with projects funded under other clusters and pillars of Horizon Europe, or other EU programmes, as appropriate.

The details of joint activities will be defined during the grant agreement preparation phase and during the life of the project.

⁷⁴ <https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-miss-2021-cancer-02-02>

⁷⁵ In order to address the objectives of the Mission on Cancer, participants will collaborate in project clusters to leverage EU-funding, increase networking across sectors and disciplines, and establish a portfolio of Cancer Mission R&I and policy actions.