Strengthening research capacities of Comprehensive Cancer Infrastructures

**Research idea - Synopsis**

Cancer is a global healthcare challenge and the leading cause of death in the EU, with an enormous impact on patients and their families. Intense research efforts in the field of cancer enabled substantial progress in cancer treatment over the last decades, however, there is an urgent need for a more systematic approach to cancer care. Many inequalities in access to high-quality cancer care, in particular timely diagnosis and treatment, still exist across Europe, as evidenced by differences in survival rates following treatment (ref). Main challenges in providing high-quality cancer care at the country level are lack of qualified personnel, low level of interdisciplinary collaboration and absence of state-of-the-art infrastructures for diagnostics and treatment. With this project we aim to establish and connect Comprehensive Cancer Hubs at national levels. First, we will map and share different capabilities and expertise available.

*Benefits from cross-border cooperation and EU expertise*

The determination of individual genetic peculiarities, identification of early biomarkers and elaboration of effective screening and treatment approaches are among the top priority research tasks. The present project aims to build on the concept of precision medicine in cancer and perform capacity building activities in the consortium member countries. This will be achieved through coordinated and well managed activities focused on: a) development of research infrastructure at project consortium member countries; b) facilitation and enhancement of coordinated activities of research and healthcare professionals ensuring integration of research data in the healthcare process; c) organization and realization of population focused  awareness campaigns; d) active collaboration with policy makers and patients organizations. Thus, the present proposal aims to establish the Cancer Hubs in every participating country for capacity building and research activities as well as communication of researchers and healthcare professionals in the form of scientific events, training sessions and in case of necessity second opinion consultations and tumor boards. This way the proposal will contribute to:

* Maximize the potential and availability of new technologies in developing countries, in order to assure equal access  to cancer diagnosis  and treatment to all patients;
* Improve cancer prevention, diagnosis, treatment and quality of life of patients and their families;
* Tailored to the needs of the participating countries; their needs shall be identified and discussed in advance to the project specific activities.
* Gradual performance of capacity building activities by starting in countries without or less developed infrastructure and followed by countries with more developed one.
* Interactive and effective training activities that will be achieved through application of simulations, case studies, group exercises, mutual learning exercises and on-the-spot visits (when possible) to gather practical experience. The training activities will be performed as a series of events; the topic of the first training will be identified on the background of a preliminary questionnaire based survey. By the end of each training a report will be prepared with indication of the achievements and problems that will be targeted by the following training sessions. Furthermore, in the report will be indicated the suggesting recommendations and a follow-up for the participants. This should include information on available EU (funding) instruments as well as any other suitable sources of support for the areas identified for improvement.
* The Virtual Cancer Hub will provide an on-demand support service to the consortium member countries to ensure proper follow-up and support for the implementation of the provided recommendations. The twinning activities will be applied for realization of research activities facilitation as well as population awareness campaigns. This will ensure the follow up of training and  standardize cancer related activities among the consortium member countries.

Improving and upscaling primary prevention of cancer through implementation research

**Research idea - Synopsis**

Cancer is the challenge for global healthcare and the target for nowadays research. The determination of individual-genetic peculiarities, identification of early biomarkers and elaboration of effective screening and treatment approaches are among the top priority research tasks. The present project aims to introduce the concept of precision medicine for the aim of development of effective screening programmes. Through the performance of research the adoption and efficacy of primary cancer prevention programmes will be achieved; furthermore, where applicable  the digitalisation of healthcare services will be performed. The activities of the proposal will ensure:

* Development of the evidence-based, tailored and affordable primary prevention programmes targeting known cancer risk factors and health determinants, including behavioural factors, that are tailored to the specific needs of local communities and effectively adopted;
* Healthcare service will be provided as the evidence-based information targeted at individuals and families on cancer prevention; that will include vaccination as well as improvement of population and healthcare professionals literacy in the field of cancer, development and revision of guidelines and improvement of  counselling.

The project will have an impact at regional and national level through the engagement of policymakers and authorities in implementation and development of prevention activities. The facilitation of development and improvement of legislative policies is also envisaged.

The project will be realized through the establishment of a Virtual Cancer Hub that will be used for research activities as well as communication of researchers and healthcare professionals in the form of scientific events, training sessions and in case of necessity second opinion consultations and tumor boards.