HORIZON EUROPE CALLS FOR PROPOSALS

Personalised prevention of non-communicable diseases - addressing areas of unmet needs using multiple data sources

The proposed research is expected to deliver on all the following points:

- Enable the understanding of areas of unmet need in NCDs prevention, possibly also addressing disease mechanism, management of disease progression and relapse. Providing new approaches for prevention, focussing on the digitally supported personalised dimension, that can be adopted and scaled up.
- Devise new or improved ambitious policy and intervention options, with expected high population-wide impact on the target groups in question. To be proposed and made available for effective health promotion and disease prevention including targeted communication strategies to successfully reach out to the risk groups.
- Design an integrated, holistic approach that includes several of the following aspects: genetic predisposition to NCDs, meta-genomics, epigenomics, the microbiome, metabolomics, sleep disorders, large cohorts, molecular profiling in longitudinal health screening, impact of lack of physical activity, novel predictive biomarker candidates, diets and nutrition, eating habits for designing customised dietary patterns (geographical variation), and the influence of choice environment on personal choices.
- Study the ethical, legal and social aspects as well as health economics of the personalised prevention tools and programmes being developed. Consider optimal health counselling and communication to the patients/citizens. Address legal aspects of balancing the right not to know and the obligation of helping people in danger.

Deadline: **19 September 2023 17:00, Brussels and 11 April 2024 17:00, Brussels**

Relationship between infections and non-communicable diseases

The following impacts are expected:

- All players along the health care value chain are provided with new knowledge for a better understanding of the links (e.g. causalities) between infectious diseases (IDs) and non-communicable diseases (NCDs) and comorbidities, including knowledge on host risk factors that impact the development of disease progression for NCDs and/or IDs.
- Researchers and clinicians are provided with a robust evidence base that will contribute to the development of new or improved tools to diagnose and prevent the development and aggravation of non-communicable disease(s) as well as early treatment and management of patients suffering from co-morbidities following an infectious disease.
- Healthcare practitioners have access to knowledge to guide them on preventive measures, on early identification of diseases onset and of those patients at risk of developing severe disease progression, and on the optimal treatment of patients.

Deadline: **13 April 2023 17:00, Brussels**

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

The proposed research is expected to deliver on all the following points:

- 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 initiatives, 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.

Deadline: **12 April 2023, 17:00 Brussels**

Tackling high-burden for patients, under-researched medical conditions

The proposed research is expected to deliver on most of the following points:

- The scientific and clinical communities make effective use of state-of-the-art information, data, technologies, tools and best practices to better understand the condition, underpinning the development of diagnostics, therapeutics and/or preventive strategies.
- The scientific and clinical community exchange data, knowledge and best practices, thereby strengthening their collaboration and building knowledge and care networks in Europe and beyond.
- The scientific and clinical community make wide use of newly established and where relevant open access databases and/or integrate them with existing infrastructures for storage and sharing of collected data according to FAIR[1] principles, thereby encouraging further use of the data.
- Policymakers and funders are informed of the research advances made and consider further support in light of the sustainability of the studies.
- Patients and caregivers are constructively engaged with the research, which also caters for their needs.
- Health professionals have access to and use improved clinical guidelines on diagnosis and/or treatment of the condition.

Deadline: **19 September 2023, 17:00 Brussels and 11 April 2024 17:00, Brussels**