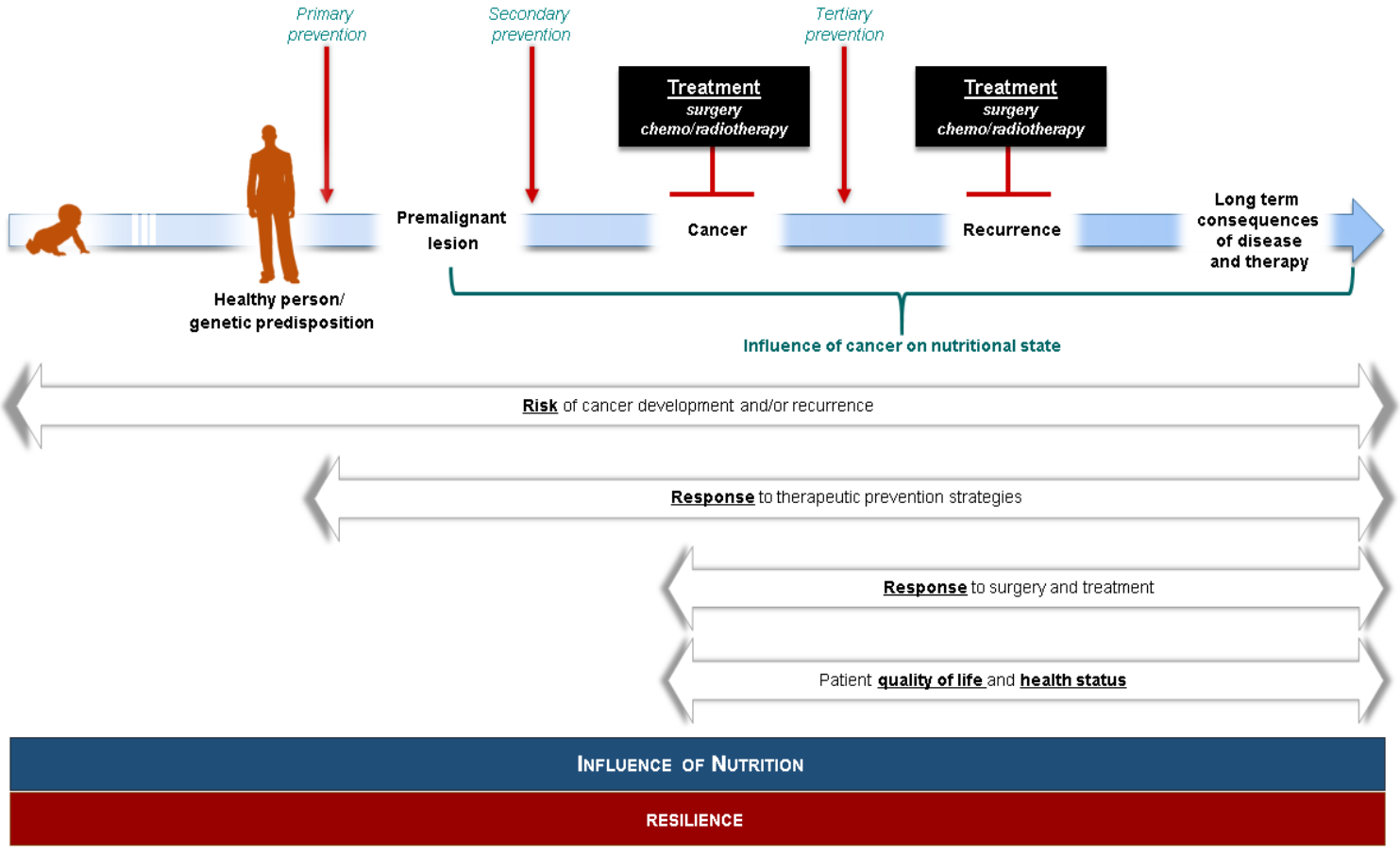
Cancer and Nutrition NIHR infrastructure collaboration

Strategic Plan (2017-2022)

Purpose:

The purpose of the cancer and nutrition NIHR infrastructure collaboration (the Collaboration) is to establish a coherent and effective infrastructure to enable the best quality translational research agenda that will bring nutritional considerations, which includes physical activity, into all aspects of cancer prevention and care.

Nutrition is an influencing factor throughout the life course, affecting cancer prevention, development, response to treatment, and outcomes for individuals. This applies at the population level, in clinical care and in the basic sciences that support the evidence base. The figure emphasises that nutrition affects risk, resilience and response throughout the cancer journey.



For the healthy population, nutrition is important as part of a healthy lifestyle, reducing *risks* of cancer and other noncommunicable diseases; for patients it is an important determinant of wellbeing after diagnosis (*resilience*), as well as a predictor of *response* to therapy; and for clinicians it is an essential consideration in the care and management of cancer patients. The evidence for what interventions are best for individual patients in specific circumstances is often scanty and inadequate to support evidence-based decisions. Therefore, for researchers, nutritional aspects of cancer care represent a major knowledge gap for which collaborative research can provide critical understanding. This is of particular importance as the diagnosis of cancer, as well as treatment and consequences of treatment, can have a significant impact on dietary intake and nutritional status for individuals.

Vision:

Our vision is to deliver benefits to people and patients through improved translational research in cancer and nutrition where every person and health professional knows and understands how best they can contribute.

Definitions

The Collaboration uses the following definitions of nutrition and cancer:

Nutrition is the set of integrated processes by which cells, tissues, organs and the whole body acquire the energy and nutrients for normal structure and function, which is achieved at body level through dietary supply, and the capacity of the body to transform the substrates and cofactors necessary for metabolism. All of these domains (diet, metabolic capacity, body composition and level of demand for energy and nutrients) are influenced by levels of physical activity and can vary according to different physiological and pathological disease states.

Cancer includes all types, stages, and sites. Stages include prevention, diagnosis, treatment, survivorship, palliative and end of life care.

Strategic Aims:

- To raise awareness of opportunities for improved research to benefit patients and the public at all stages of the cancer process.
- To promote and enable research to address knowledge gaps in nutrition at all stages of life in relation to cancer.

- To foster a community of clinicians, patients, the public, and researchers to share knowledge, understanding and best practice to jointly deliver the highest quality research.

Benefits and Impacts:

For the general population: Around 1 in 2 people in the UK born after 1960 will develop cancer at some point during their lifetime. Building the evidence base for how nutrition affects cancer risk, and identifying effective preventive measures, response to treatment and outcomes is therefore of potential benefit to up to half the population. About a quarter to a third of cancers are estimated to be preventable through better nutrition, physical activity and diet, so it is a significant public health issue.

For patients: Good quality translational research will lead to better evidence-based care and advice for patients, filling a demonstrated gap. Patient participation is central to the development of the research agenda for cancer and nutrition and thus has been embraced at all levels of the collaboration's strategic and operational activities.

For researchers: The research community will benefit from better opportunities for interdisciplinary collaborations, bringing together experts to work together in setting priorities and delivering the best quality translational research agenda in line with NIHR strategic ambitions.

For health professionals: Health professionals, including cancer clinicians, will benefit from a better ability to translate research into practice as well as an enhanced ability to make nutritional diagnoses a basis for stratified care, including advice, guidance and therapy.

Sustainability:

The Collaboration aims to build robust mechanisms for networking and the sharing of knowledge, expertise and experience between the cancer and nutrition research communities as well as clinical communities. The long-term aim is that the work streams, which have been enabled to establish the Collaboration, become self-sustaining communities of practice, continuing to deliver improved research and clinical care to cancer patients.