Overview

The Division of Cancer Prevention (DCP) conducts and supports research to find ways to reduce the risk of developing cancer, detect early events, and intervene in the cancer process to prevent symptomatic disease and death. [http://prevention.cancer.gov](http://prevention.cancer.gov)

- The Division funds and provides support to clinical and laboratory researchers, community and multidisciplinary teams, and scientific networks.
- Through the NCI Community Oncology Program (NCORP), the Division funds community-based and minority-based research on a broad spectrum of interventions, including prevention, cancer screening, therapy, symptomatic management, and cancer-related health services studies.
- The Division also houses a Cancer Prevention Fellowship Program devoted to training the next generation of cancer prevention scientists and practitioners.

Research Areas

- Prevention agent and vaccine development in preclinical *in vitro* and animal models
- Early phase prevention trials in humans
- Large-scale clinical trials in prevention and cancer control
- Discovery and validation of biomarkers for early detection of cancer
- Screening and early detection trials
- Nutritional sciences, including study of the microbiome
- Prevention and treatment of symptoms related to cancer, its treatment, and caregiving (symptom management), and supportive and palliative care
- Biostatistical modeling and collaborative support; measurement error

Major Programs and Projects  *(alphabetical listing)*

Alliance of Glycobiologists for Detection of Cancer

The Alliance of Glycobiologists for Detection of Cancer, a consortium of eight Tumor Glycomics Laboratories, is working to reveal cancer-related dynamics of complex carbohydrates to develop new, validated clinical biomarkers for early detection.
Barrett's Esophagus Translational Research Network (BETRNet)

BETRNet is a multi-disciplinary, multi-institutional collaboration co-sponsored by NCI's Division of Cancer Prevention and Division of Cancer Biology that was established to centralize and enhance efforts to understand Barrett's esophagus (BE) and to prevent esophageal adenocarcinoma (EA).

Biometry

This scientific group provides consultations to NCI program managers on development of research methods and methodologic studies, including analyses of biological data and issues of measurement error. Studies include biostatistical and epidemiological methodologies and mathematical modeling of processes relevant to cancer prevention.

Cancer Data Access System (CDAS)

The Cancer Data Access System (CDAS) is a web portal that facilitates access to data recorded from the National Lung Screening Trial (NLST), the Prostate, Lung, Colorectal, and Ovarian Cancer (PLCO) Screening Trial, and the Interactive Diet and Activity Tracking (IDATA) in AARP cancer studies. For some studies, images or biospecimens are also available. CDAS provides extensive public documentation for each study, including a trial summary, an overview of the data collected, and a searchable database of research projects and publications.

Cancer Prevention Fellowship Program (CPFP)

The Cancer Prevention Fellowship Program (CPFP) is renowned for providing a strong foundation for scientists and clinicians to train in the field of cancer prevention and control.

Consortium for Imaging and Biomarkers (CIB)

The Consortium for Imaging and Biomarkers (CIB) seeks to improve cancer screening, early detection of aggressive cancer, assessment of cancer risk, and cancer diagnosis by integrating imaging strategies with biomarkers into complementary approaches. It is managed in collaboration with the Division of Cancer Treatment and Diagnosis.

Consortium on Translational Research in Early Detection of Liver Cancer

This consortium will conduct studies to improve the surveillance of liver cancer in high-risk (cirrhotic) populations, increase the fraction of liver cancer detected at an early stage, and better stratify patients at risk of developing liver cancer.
Early Detection Research Network (EDRN)

The Early Detection Research Network (EDRN) is a collaborative program that maintains comprehensive infrastructure and resources critical to the discovery, development and validation of biomarkers for cancer risk and early detection.

Immuno-Oncology Translational Network (IOTN): Prevention Component

As the prevention component of the Cancer Immunotherapy Consortium (CIC), this integrated network of multi-disciplinary, collaborative teams will accelerate translational research evaluating new or improved immunopreventive strategies. Studies will be largely pre-clinical involving clinically-relevant models and endpoints, and have the potential for rapid translation into early-phase clinical applications.

Large Cohort Studies

DCP collaborates with other NIH institutes on clinical trials to facilitate analytic studies of large cohorts to study cancer endpoints in addition to other risk factor and health outcomes. Through the Aspirin in Reducing Events in the Elderly (AspREE) Trial in collaboration with the National Institute on Aging, NCI is examining whether low-dose aspirin would benefit healthy older people by extending life free of disability and dementia without outweighing the risks (particularly bleeding). The intervention phase was stopped for lack of net benefit in the summer of 2017.

Through the Diabetes Prevention Program Outcome Study (DPPOS) in collaboration with the National Institute of Diabetes and Digestive and Kidney Diseases, NCI is examining if metformin or lifestyle intervention used to prevent development of diabetes can also modify cancer incidence.

Molecular Characterization of Screen-Detected Lesions Consortium (MCL Laboratories)

The Consortium for Molecular Characterization of Screen-Detected Lesions is supported by DCP and the Division of Cancer Biology. The consortium focuses on the need to characterize molecular and cellular features of screening-detected pre-cancers and early cancers, including within the tumor microenvironment.

National Lung Screening Trial (NLST)

The NLST was a randomized controlled trial to determine whether screening for lung cancer with low-dose helical computed tomography (CT) reduces mortality from lung cancer in high-risk individuals relative to screening with chest radiography. Approximately 54,000 participants were enrolled between August 2002 and April 2004. Dataset and images from the trial continue to be made available to support a variety of research studies.
NCI Community Oncology Research Program (NCORP)

The NCORP is a national network of cancer care investigators, providers, academia, and other organizations that care for diverse populations in health systems. This national NCI-supported network brings cancer prevention clinical trials and cancer care delivery research (CCDR) to people in their communities. Twelve of the 46 NCORP Community Sites are designated as Minority/Underserved Community Sites with a patient population comprised of at least 30% racial/ethnic minorities or rural residents.

New Onset Diabetes (NOD) Cohort Study

Individuals with new-onset diabetes (NOD) age 50+ are at elevated risk of developing pancreatic ductal adenocarcinoma (PDAC). A prospective cohort study is being planned of subjects over age 50 years with new-onset diabetes (NOD) to estimate the probability of PDAC; establish a biobank of clinically annotated biospecimens; and facilitate validation of emerging tests for identifying NOD subjects at high risk for PDAC.

Pancreatic Cancer Detection Consortium (PCDC)

The Pancreatic Cancer Detection Consortium (PCDC) develops and tests new molecular and imaging biomarkers to detect early stage pancreatic ductal adenocarcinoma (PDAC) and its precursor lesions. These biomarkers would be used to identify individuals who are at high risk of developing PDAC and are candidates for early intervention.

Phase 0/I/II Cancer Prevention Clinical Trials Program (Consortia)

Systematic early clinical development of promising preventive agents occurs through this program, also known as the Consortia for Early Phase Prevention Trials. Cancer prevention drug discovery is identifying many new agents, including an increasing number of agents that act on specific molecular pathways thought to be critical to cancer development.

Pre-Cancer Atlas (PCA)

Advanced by the Cancer Moonshot Blue Ribbon Panel, this initiative will systematically collect, catalogue, and analyze large numbers of precancerous growths and early cancers to understand how different types of cancer arise and progress. Information collected through the PCA program will enable the development of more sensitive early detection methods. In addition, PCA research will identify potential molecular targets for preventive interventions.
PREVENT Cancer Preclinical Drug Development Program (PREVENT)

PREVENT supports development of the best ideas in cancer prevention intervention and biomarkers using NCI contract resources instead of direct funding. The program is a peer-reviewed pipeline that focuses on research needs that are not adequately addressed by the private sector. Approaches to prevention supported by PREVENT include new immunoprevention strategies, new targeted agents for chemoprevention, novel modes of drug delivery, and alternate dosing regimens.

Prostate, Lung, Colorectal, and Ovarian Cancer Screening Trial (PLCO)

The PLCO Cancer Screening Trial was a large population-based randomized trial designed and sponsored by the National Cancer Institute (NCI) to determine the effects of screening on cancer-related mortality and secondary endpoints in men and women aged 55 to 74. Data and samples from the trial continue to support a variety of research studies.

Small Cell Lung Cancer Consortium

Research teams of the Small-Cell Lung Cancer (SCLC) Consortium will conduct research to expand the understanding of the critical molecular changes in the lung that precede the development of frank SCLC and/or, to identify populations at particularly high risk for SCLC.

Supportive and Palliative Care Research

This program supports studies on the prevention or treatment of acute and chronic symptoms and morbidities related to cancer and its treatment. This includes the impact on the quality of life of patients and their informal caregivers. The program also supports studies of patients and their caregivers at the end of life.

Tomosynthesis Mammographic Imaging Screening Trial (TMIST)

TMIST is the first large-scale breast cancer screening trial in nearly 25 years, and is now recruiting medical facilities as it prepares to open the trial in mid-2017. TMIST will enroll 165,000 asymptomatic women in the U.S. and Canada, between the ages of 45 and 74, to compare the incidence of advanced cancers in those screened for 4 years with 3D breast tomosynthesis versus standard 2D digital mammography. The study aims to provide a modern basis for the continued use of mammography for breast cancer screening.