

Partnerships to Advance Cancer Health Equity (PACHE) Program Meeting

NCI Division of Cancer Prevention Overview of Programs, Projects, and Priorities

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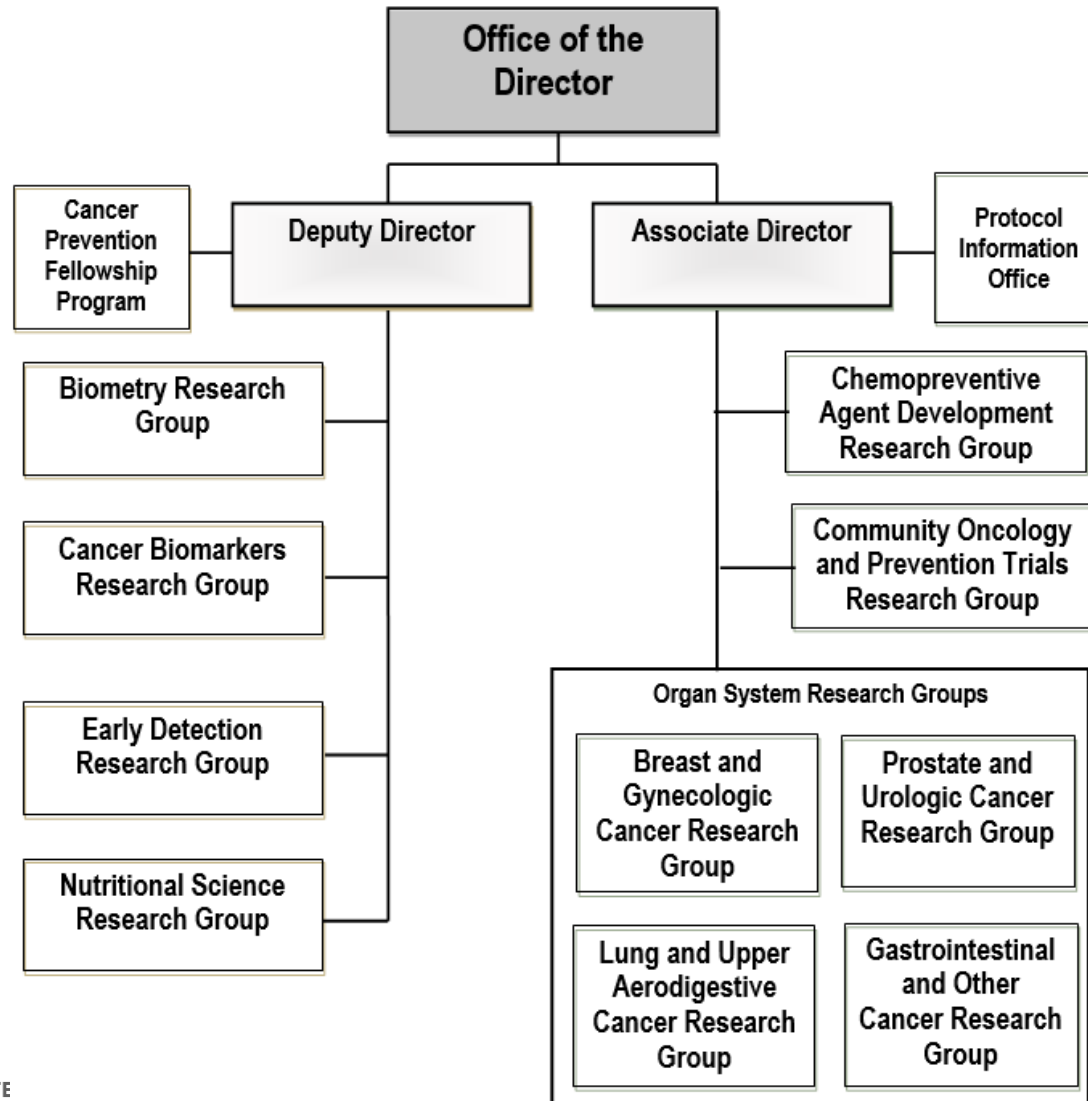
<http://prevention.cancer.gov>

23 July 2018

Overarching Goals

- Conducting and supporting research to determine risk of cancer and to find ways to reduce incidence and risk of death.
- Funding and supporting clinical and laboratory researchers, community and multidisciplinary teams, and scientific networks to *detect early events* and *intervene* in the cancer process to prevent symptomatic disease and death.
- Funding and supporting community-based and minorities/disparities-focused research on a broad spectrum of interventions, including prevention, screening, therapy, symptomatic management, and cancer-related health services studies.
- Training and supporting the next generation of cancer prevention scientists and practitioners.

Organizational Chart



NCI Division of Cancer Prevention

Key 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

NCI Division of Cancer Prevention: Major Programs and Initiatives

NCI Community Oncology Research Program (NCORP)

- Cancer prevention, clinical trials and cancer care delivery research (with DCCPS) through 34 community sites and 12 minority-based community sites
- Minority/Underserved populations are 52% of MB-NCORP accruals; 20% of NCORP accruals overall
- Access to cancer prevention, screening, and therapy trials in the local community

Three RFAs for Community Sites, Minority/Underserved Community Sites, and Research Bases currently open for re-competition of this initiative

RFA-CA-18-015

RFA-CA-18-016

RFA-CA-18-017

<https://ncorp.cancer.gov>



Tomosynthesis Mammographic Imaging Screening Trial (TMIST) in NCORP

- The first randomized trial to compare two types of digital mammography for breast cancer screening approved by the FDA: tomosynthesis (3D) and conventional (2D)
- Enrolling 165,000 healthy women ages 45 to 74 who are already planning to get routine mammogram in centers across the U.S. and Canada
- Opened for patient recruitment in September 2017
- Primary endpoint: Reduction in advanced breast cancer among screened women; including premenopausal, African-American, those with dense breasts, and those on hormone replacement therapy

<https://www.cancer.gov/news-events/press-releases/2017/tmist-mammography-trial>

Supportive and Palliative Care Research

- Supported through individual grants and NCORP clinical trials
- Research Areas:
 - Symptom Management Research
 - Quality of Life Research
 - End-of-Life Research
- Interventions for early identification, assessment, and treatment for pain and other physical, psychosocial, and spiritual problems
- Studies to better understand treatment-related symptoms, adverse events and toxicities

Other Large Prevention Trials and Cohorts

Aspirin in Reducing Events in the Elderly (AspREE) with the National Institute on Aging (NIA)

- Age 70+ (65+ for African-Americans)
- Examining whether the potential benefits of low-dose aspirin (i.e., preventing heart disease, stroke, **cancers**, and dementia) outweigh the risks (particularly bleeding).

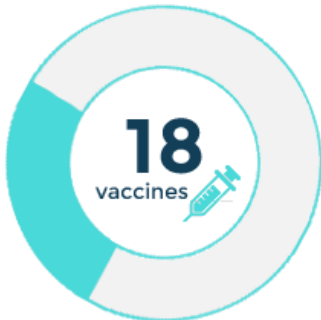
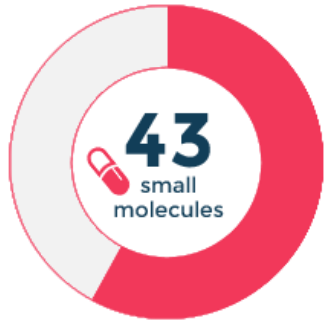
Diabetes Prevention Program Outcome Study (DPPOS) with the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)

- Examining if metformin or lifestyle intervention used to prevent development of diabetes can also modify cancer incidence.
- Obesity-related cancers (breast, colon & rectum, endometrium, pancreas, esophagus, gall bladder, and kidney).

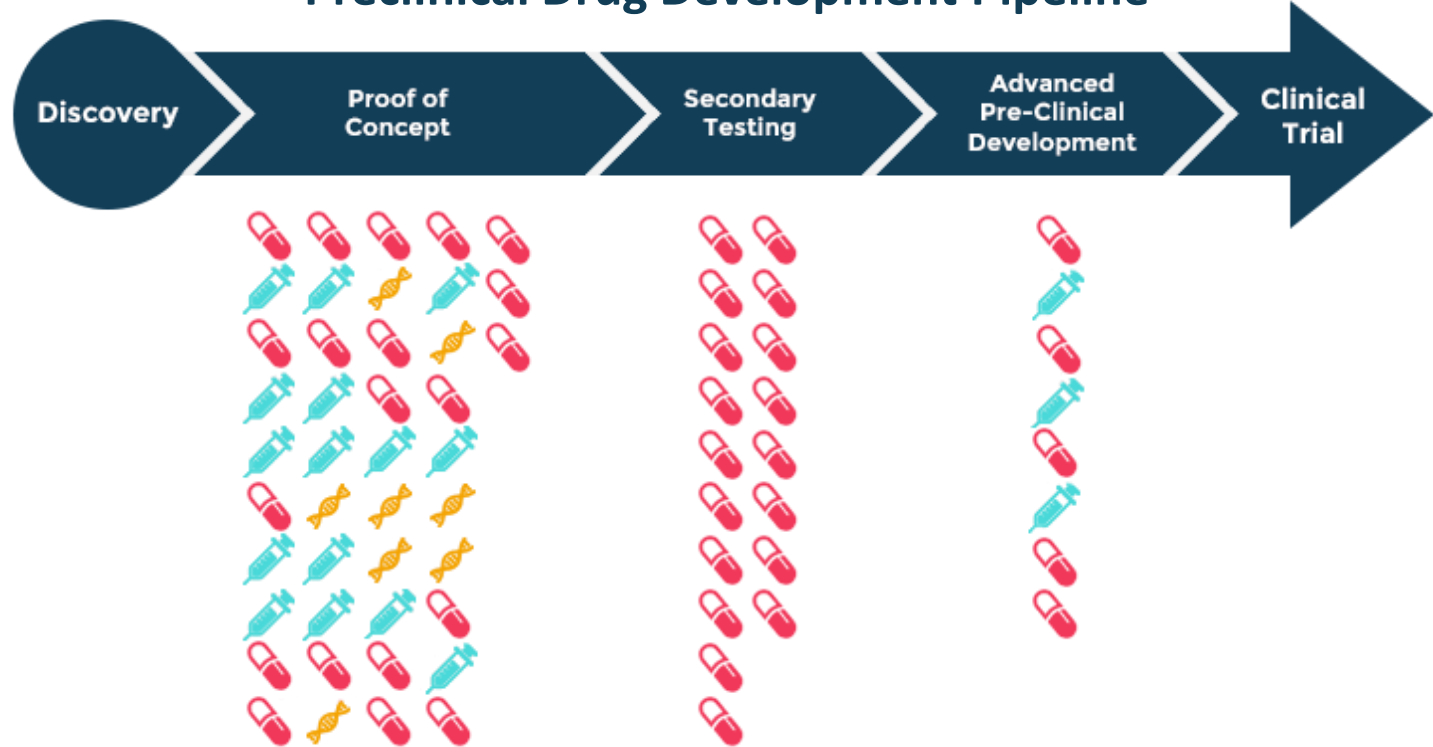
NCI Division of Cancer Prevention: Major Programs and Initiatives

'PREVENT' Cancer Preclinical Drug Development Program

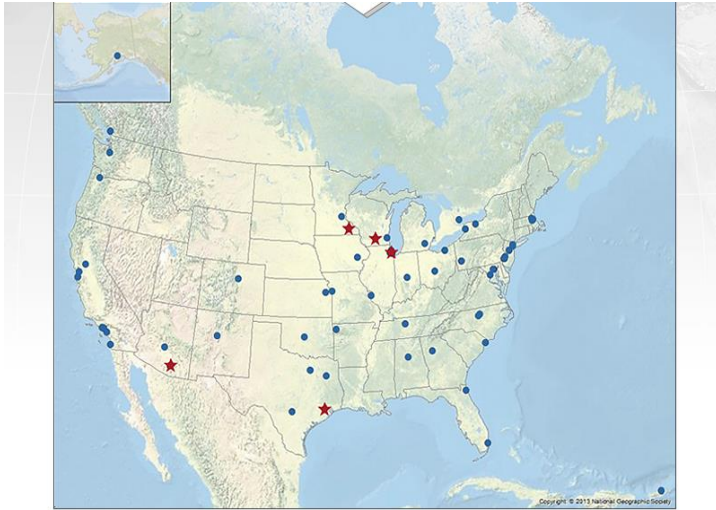
Supports best ideas in cancer prevention drug development using NCI contract resources



Preclinical Drug Development Pipeline



Phase 0/I/II Cancer Prevention Clinical Trials CONSORTIA Program



5 Consortia Lead Organizations;
>90 participating sites

Goals

- Design and conduct of early phase clinical trials to assess potential of cancer preventive agents directed at molecular targets shown to be expressed in intraepithelial neoplasia
- Characterize effects of new agents on molecular targets and biological events in carcinogenesis (proliferation, apoptosis, growth factor expression, oncogene expression) and correlate these effects with clinical endpoints
- Gain insights into mechanisms of cancer prevention and to develop novel potential markers as determinants of response

Cancer Biomarker Research Initiatives

- **Alliance of Glycobiologists for Detection of Cancer:** Eight tumor glycomics laboratories working to reveal cancer-related dynamics of complex carbohydrates to develop new, validated clinical biomarkers for early detection.
- **Consortium for Imaging and Biomarkers (CIB)** (DCP and DCTD): Improving cancer screening, early detection, cancer risk assessment, and cancer diagnosis by integrating imaging strategies with biomarkers into complementary approaches.
- **Early Detection Research Network (EDRN):** Maintains comprehensive infrastructure and resources critical to the discovery, development and validation of biomarkers for cancer risk and early detection.
- **Molecular Characterization of Screen-Detected Lesions Consortium** (DCP and DCB): Focusing on the need to characterize molecular and cellular features of screening-detected pre-cancers and early cancers, including within the tumor microenvironment.
- **Pancreatic Cancer Detection Consortium (PCDC):** Develops and tests new molecular and imaging biomarkers to detect early stage pancreatic ductal adenocarcinoma and its precursor lesions

Biorepositories and Post-Trial Analyses

- **National Lung Screening Trial (NLST) and Prostate, Lung, Colorectal, and Ovarian (PLCO) Cancer Screening Trials**
 - Ongoing post-trial follow-up analyses
- **Cancer Data Access System website**
 - NLST, PLCO, IDATA: Data and specimens available for investigator use



NCI Division of Cancer Prevention: Major Programs and Initiatives

NCI Cancer Prevention Fellowship Program

- Celebrated its 30th anniversary in 2017
- Provides a strong foundation for scientists and clinicians to train in the field of cancer prevention and control.
- Multidisciplinary training for post-doctoral fellows in basic, quantitative, social and behavioral sciences, clinical cancer prevention
- 40 current fellows work in several NCI divisions and at the Food and Drug Administration
- Two summer courses:
 - Principles and Practice of Cancer Prevention Control Course
 - Molecular Prevention Course

<http://prevention.cancer.gov>



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