NCI Director’s Update

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NCAB Meeting
September 7, 2016
Topics

- Vice President’s Cancer Moonshot
- Investigator-initiated research: RPG pool
- President’s Precision Medicine Initiative in Oncology
- Cancer health disparities
Changes in RPG pool: FY12-FY16 and beyond
A presidential initiative to improve cancer treatment through cancer genomics

A foundational clinical trial (MATCH; Jim Doroshow)

Preclinical models to advance predictive oncology: the right drugs for the right patient at the right time

A large annotated database of cancer patients: for researchers, health care providers, and patients (GDC; Warren Kibbe & Lou Staudt)
The President’s Precision Medicine Initiative in Oncology (1)

**Improve pre-clinical models for evaluating targeted therapeutics and immunotherapy (input from NCI workshop)**

- “Administrative supplements (for CCSGs): research in canine immunotherapy via collaboration of NCI-designated Cancer Centers and Veterinary Medical Colleges” — **17 responses; 8 funded**

- “Administrative supplements (for CCSGs, SPOREs, NCTN, and UM1 grantees): collaborative research efforts to enhance preclinical drug development and preclinical trials utilizing patient derived xenograft (PDX) models” — **65 responses; 10 funded**
Expand support for development of immunotherapy trials (input from 2 NCI workshops):

- “Administrative supplements (for CCSG, P50, and U01/U10 grantees): biomarker development and correlative studies associated with immunotherapy clinical trials” — 23 responses; 13 funded
- “Administrative supplements (for CCSG, P50, or P01 grantees): how the microenvironment of pancreatic ductal adenocarcinoma affects immunotherapy” — 36 responses; 9 funded
- “Administrative supplements (for P30 CCSGs): improvement and optimization of T-cell therapies and cGMP manufacturing processes for production of autologous T-cell therapy products targeting solid tumors” — 15 responses; 3 funded
Employ clinical materials from drug-resistant patients for molecular analysis, leading to rational studies of targeted combinations

✓ “Administrative supplements (to CCSGs, SPORES, U10 Cooperative Agreements, and UM1-funded ETCTN sites): to study mechanisms of cancer sensitivity and therapeutic resistance utilizing samples from human clinical trials” — 38 responses; 10 funded

✓ Create repository of molecularly analyzed samples of resistant disease (pre- and post-treatment pairs) — administrative supplements to NCORP sites, in process.
Focus on specific cancers with health disparities

- Some examples: colorectal cancer, liver cancer, breast cancer, prostate cancer, multiple myeloma, kidney cancer

- Identify the risk factors and their relative contribution to the disparities: **biologic factors, life-style factors, health care access/utilization**

- Explore efforts to mitigate the risk factors
*Hispanic is not mutually exclusive from other groups
Incidence data from SEER 13 1992–2013, Mortality data from NCHS
Kidney & Renal Pelvis

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Incidence data from SEER 13 1992–2011, Mortality data from NCHS
Two new NCI research initiatives

- Early onset malignancy initiative: the first minority-based cancer tissue bank; early onset tumors; collect information on treatment, response, and outcome
  - Detailed molecular characterization of fully annotated tumors
  - Organized through NCORP (NCI Community Oncology Research Program)
- Develop new cancer models from tumors of minority patients (CRCHD supplements)
Development of cell-based and animal-based models to advance cancer health disparity research

- Diverse Racial/Ethnic Groups
  - Cell Lines/Primary Cells
    - Conditionally Reprogrammed Cells
    - Matched to PDX Models
  - Patient Derived Xenograft Mouse Models (PDXs)
  - 3D Human Tissue Model Culture Systems