NCI Director's Update
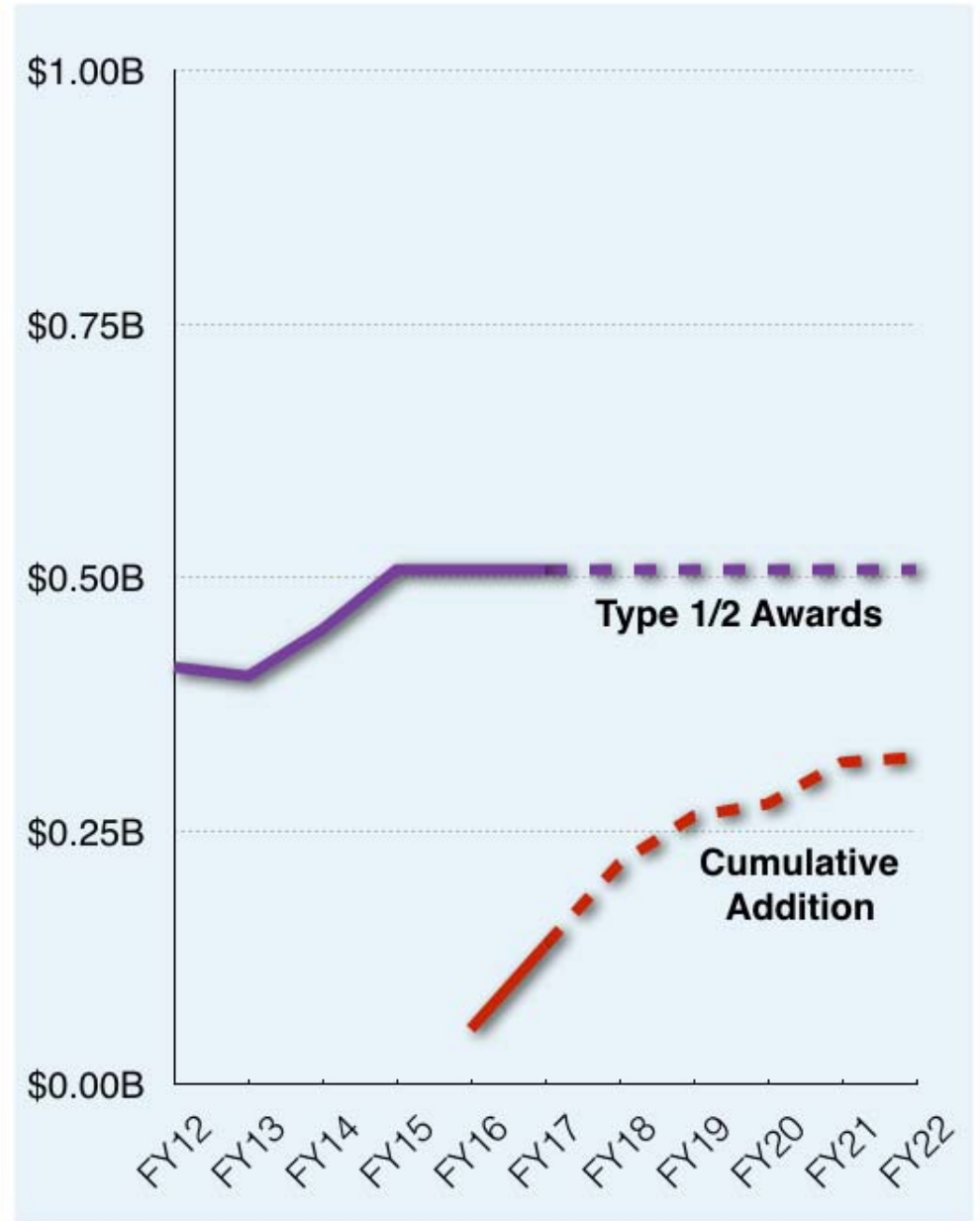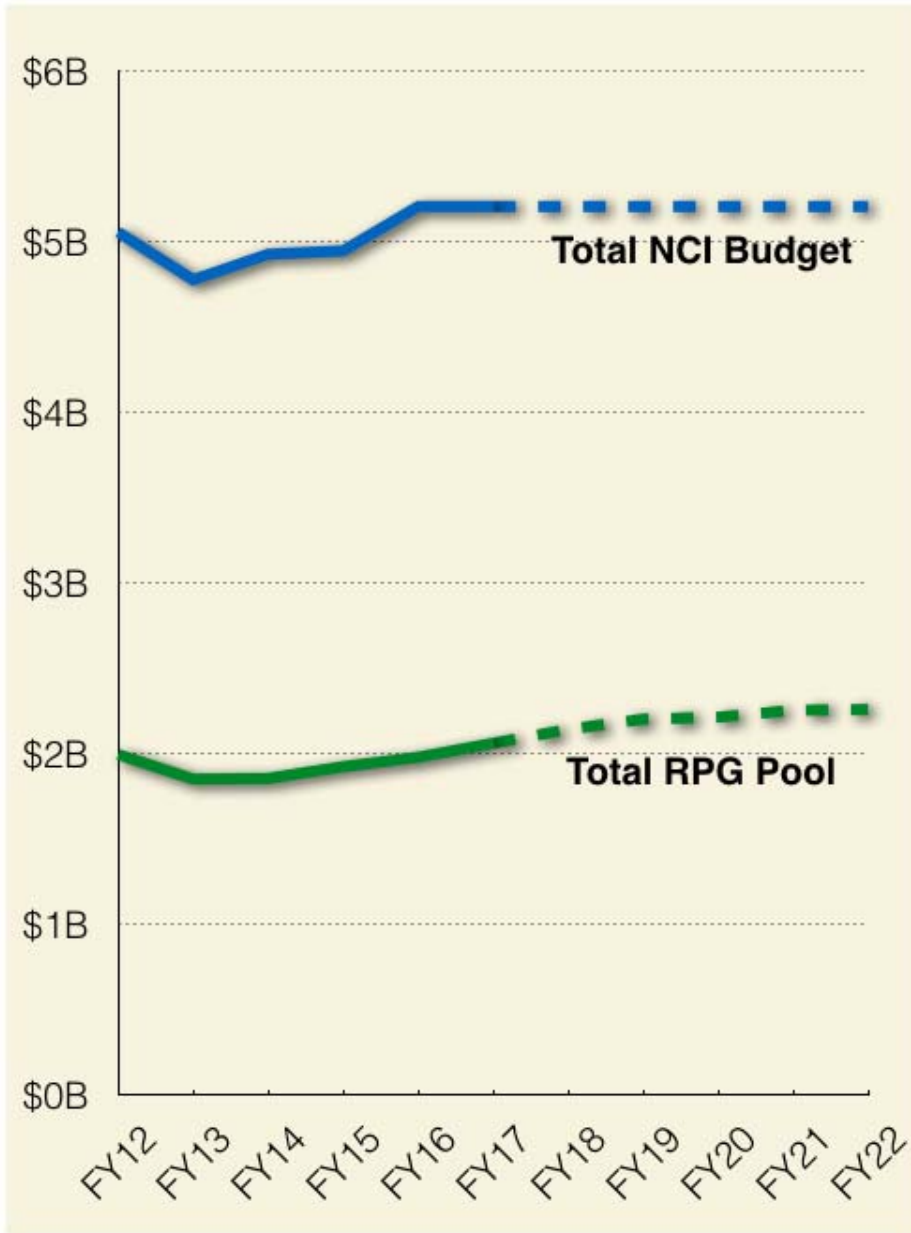
Douglas R. Lowy
Acting Director, National Cancer Institute,
National Institutes of Health

NIH > NATIONAL CANCER INSTITUTE

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

The President's Precision Medicine Initiative in Oncology

- 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**

The President's Precision Medicine Initiative in Oncology (2)

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**

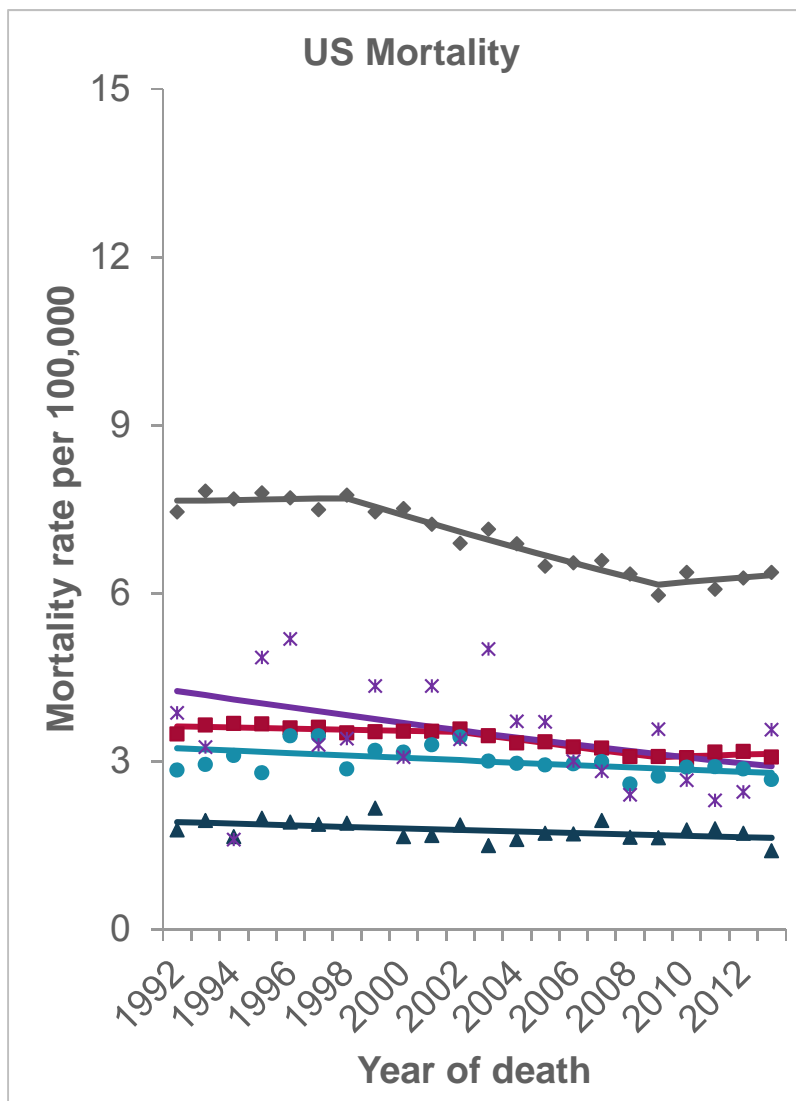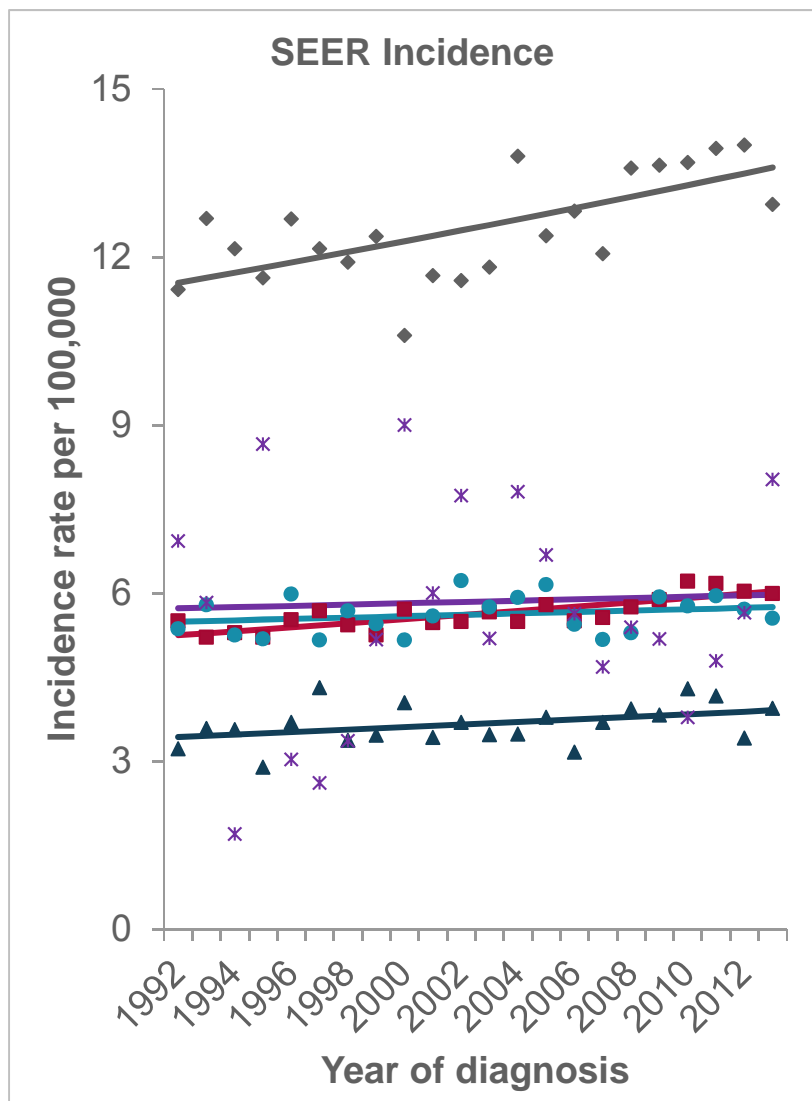## The President's Precision Medicine Initiative in Oncology (3)

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**
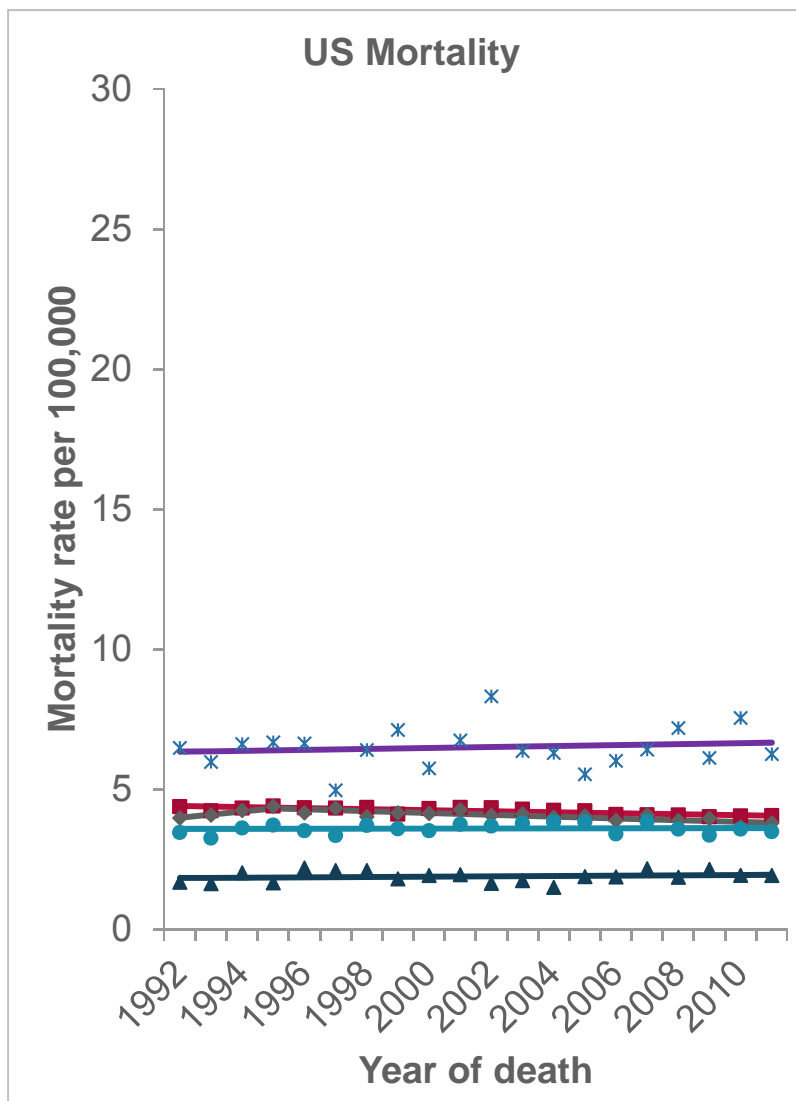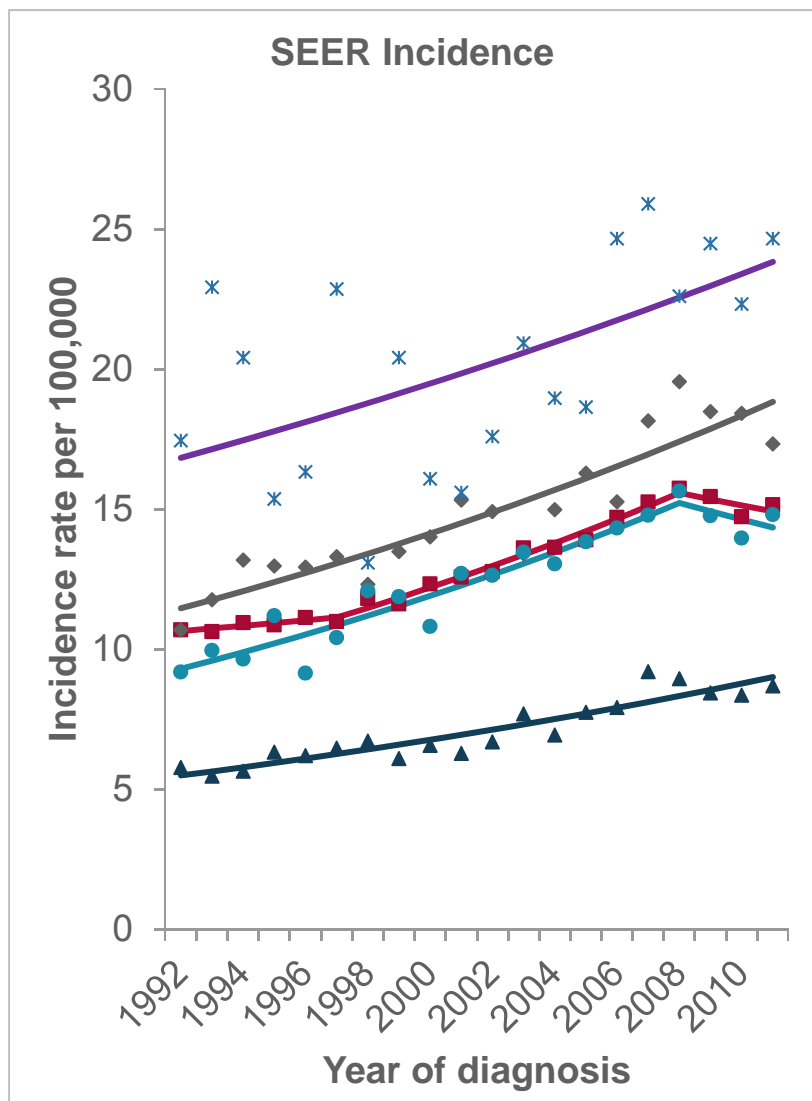
- Explore efforts to mitigate the risk factors

Myeloma

*Hispanic is not mutually exclusive from other groups
Incidence data from SEER 13 1992–2013, Mortality data from NCHS
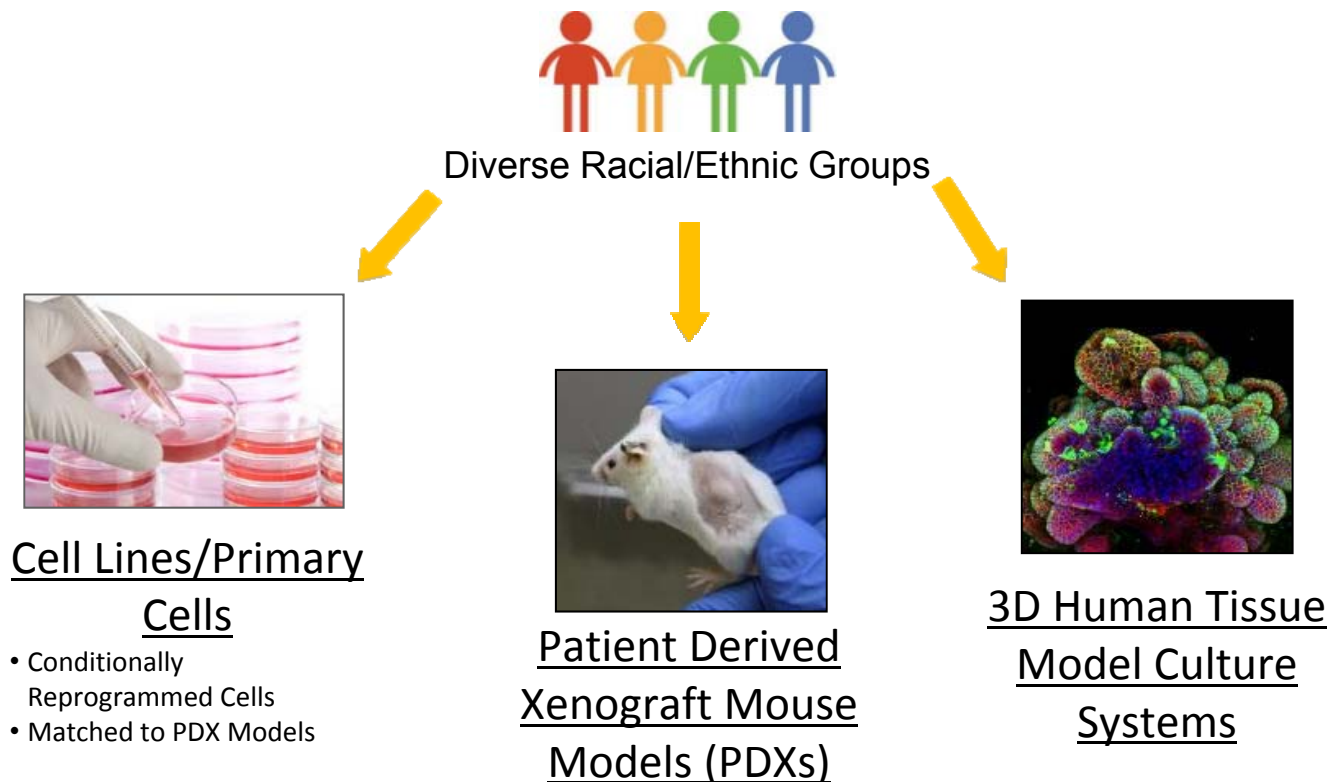
9

Kidney & Renal Pelvis

*Hispanic is not mutually exclusive from other groups
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

www.cancer.gov   **www.cancer.gov/espanol**