

# Update from Acting NCI Director

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National Institutes of Health*

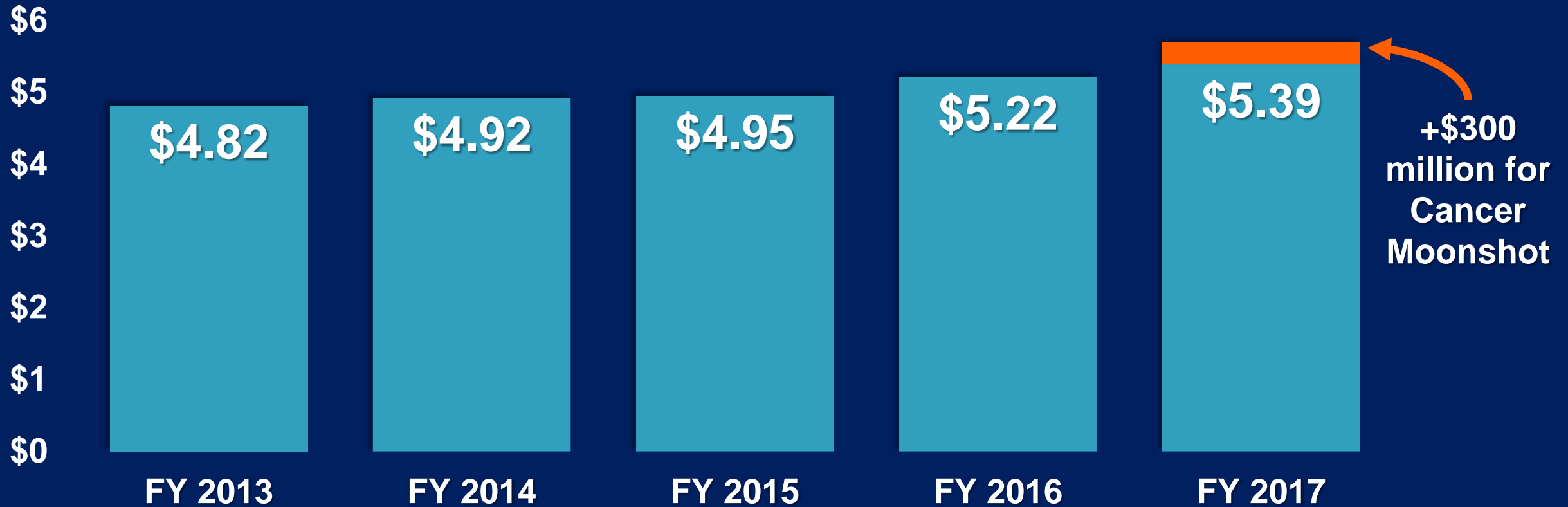
CTAC Meeting  
July 12, 2017



**NATIONAL CANCER INSTITUTE**



# NCI APPROPRIATIONS 2013-2017 (in billions)



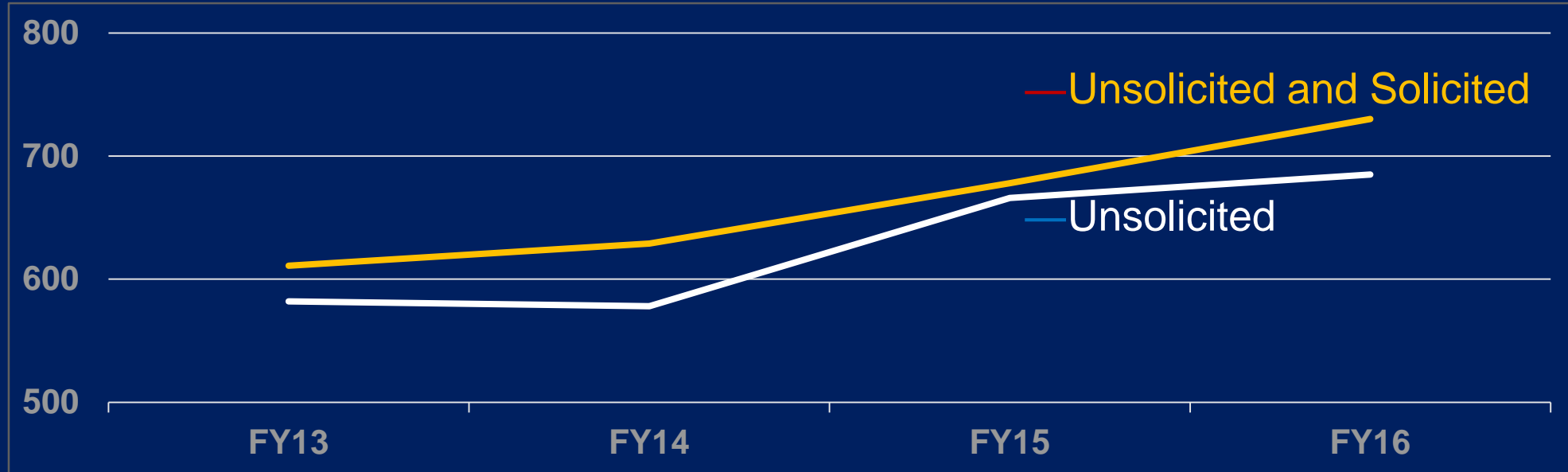
# Importance of Research Supported by NCI's Regular Appropriation (1)

- Largely non-overlapping with Cancer Moonshot research activities
- Some ongoing examples:
  - Training the next generation of investigators
  - Investigator-initiated research
  - Most clinical trials and cancer cohorts
  - PMI Oncology
  - RAS initiative

# K08 Award: Expanded Criteria & Increased Support

- Increase flexibility to applications from physician-scientists:  
collapse K08 & K23
- Increase salary levels: up to \$185K for 100% time
- Increase research support: up to \$50K

# Number of R01s/R35s Awarded



	FY13	FY14	FY15	FY16
Unsolicited R01s	582	578	623	650
R35s	--	--	43	35
<b>Total Unsolicited</b>	<b>582</b>	<b>578</b>	<b>666</b>	<b>685</b>
RFA R01s	29	51	12	45
<b>Total Solicited and Unsolicited</b>	<b>611</b>	<b>629</b>	<b>678</b>	<b>730</b>



# Percent R01 and R21 Awards to ESI's & NI's (FY13-FY16)

	FY13	FY14	FY15	FY16
<b>R01: All New Investigators</b>	<b>25%</b>	<b>25%</b>	<b>20%</b>	<b>24%</b>
<b>R01: Early Stage Investigators</b>	<b>16%</b>	<b>15%</b>	<b>11%</b>	<b>13%</b>
<b>R21: All New Investigators</b>	<b>45%</b>	<b>40%</b>	<b>40%</b>	<b>40%</b>

# Genomic Analysis of Breast Cancer in African-Ancestry Populations

- Goal: improve understanding of breast cancer in black women
- Compare cancer genomes of 20,000 black women with breast cancer to 20,000 white women with breast cancer
- Compare germ line of 20,000 black women with breast cancer to 20,000 black women without breast cancer
- Uses biospecimens from multiple cohort studies

# Importance of Research Supported by NCI's Regular Appropriation (2)

- Some new initiatives:
  - National Cryo-Electron Microscopy Facility, FNLCR
    - FNLCR = Frederick National Laboratory for Cancer Research
    - <https://www.cancer.gov/research/resources/cryoem>
  - TMIST breast cancer screening trial
    - TMIST = Tomosynthesis Mammographic Imaging Screening Trial



# TMIST Breast Cancer Screening Trial

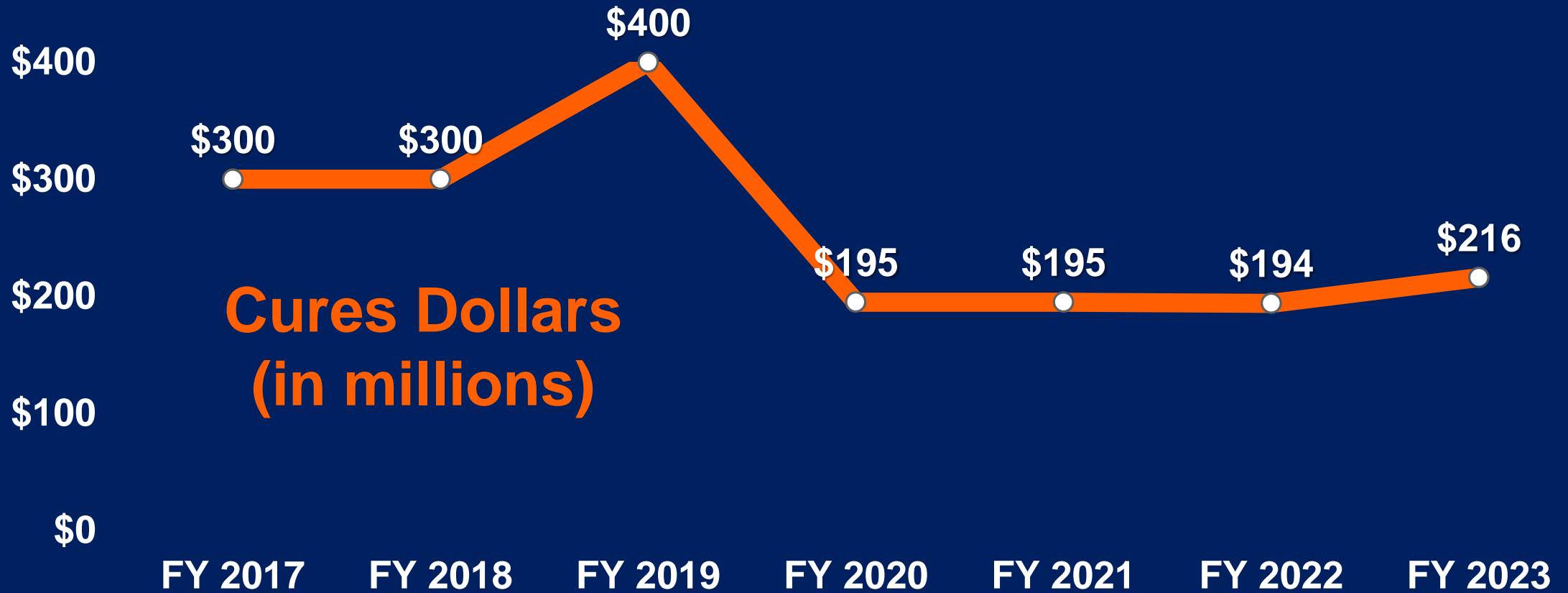
- Collaboration with ECOG-ACRIN
- Primary goal: Determine if ***cumulative rate of advanced breast cancer*** in women undergoing screening with ***tomosynthesis plus digital mammography*** is reduced compared to ***digital mammography alone***
- RCT, 165,000 women 45-74
- Menopausal normal risk: biennial screens: 0, 24, 48 months
- Menopausal increased risk: annual screens: 0, 12, 24, 36, 48 months
- Biorepository

# Initial Overall Goals of the Cancer Moonshot (January 2016)

- Accelerate progress in cancer; prevention, screening, treatment, mechanisms
  - From cutting edge research to wider uptake of standard of care
- Encourage greater cooperation and collaboration
  - Within and between academia, government, and private sector
- Enhance data sharing



# CANCER MOONSHOT: AUTHORIZED FUNDING

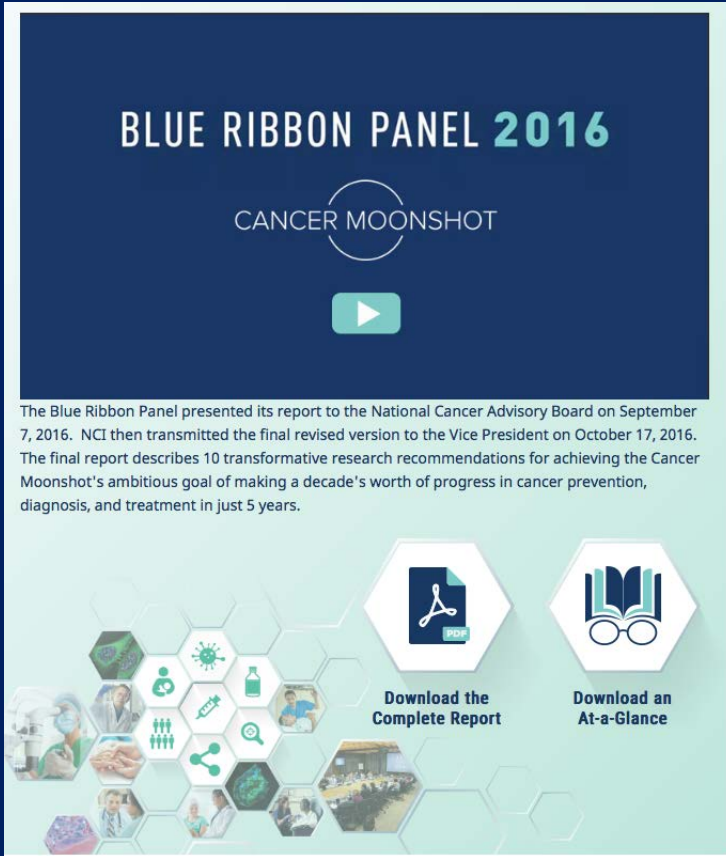




# CANCER MOONSHOT: AUTHORIZED FUNDING

<b>Fiscal Year</b>	<b>Cures Dollars (in millions)</b>	<b>Estimated First Year Awards (in millions)</b>
2017	\$300	\$140
2018	\$300	\$105
2019	\$400	\$60
2020	\$195	\$0
2021	\$195	\$0
2022	\$194	\$30
2023	\$216	\$25

# Blue Ribbon Panel Goals



The graphic features a dark blue header with the text "BLUE RIBBON PANEL 2016" in white and teal. Below this is the "CANCER MOONSHOT" logo, which consists of the words "CANCER MOONSHOT" in white with a white circle around the word "MOONSHOT". A teal play button icon is centered below the logo. A paragraph of text follows, describing the panel's report to the National Cancer Advisory Board on September 7, 2016, and its transmission to the Vice President on October 17, 2016. The text states that the final report describes 10 transformative research recommendations for achieving the Cancer Moonshot's goal of making a decade's worth of progress in cancer prevention, diagnosis, and treatment in just 5 years. At the bottom, there are two hexagonal icons: one with a PDF symbol and the text "Download the Complete Report", and another with a book and glasses symbol and the text "Download an At-a-Glance". The background of the lower half is a light green grid of hexagons, some containing small images related to cancer research and healthcare.

BLUE RIBBON PANEL 2016

CANCER MOONSHOT

The Blue Ribbon Panel presented its report to the National Cancer Advisory Board on September 7, 2016. NCI then transmitted the final revised version to the Vice President on October 17, 2016. The final report describes 10 transformative research recommendations for achieving the Cancer Moonshot's ambitious goal of making a decade's worth of progress in cancer prevention, diagnosis, and treatment in just 5 years.


Download the Complete Report

Download an At-a-Glance

available at:  
[cancer.gov/brp](http://cancer.gov/brp)

- Identify major scientific opportunities poised for acceleration by additional emphasis and funding
- Develop ~10 recommendations to be pursued through the Cancer Moonshot

# Blue Ribbon Panel Recommendations



The Blue Ribbon Panel presented its report to the National Cancer Advisory Board on September 7, 2016. NCI then transmitted the final revised version to the Vice President on October 17, 2016. The final report describes 10 transformative research recommendations for achieving the Cancer Moonshot's ambitious goal of making a decade's worth of progress in cancer prevention, diagnosis, and treatment in just 5 years.

Download the Complete Report

Download an At-a-Glance

The image shows the cover of the Blue Ribbon Panel 2016 report. It features the title 'BLUE RIBBON PANEL 2016' in white and teal text on a dark blue background. Below the title is the 'CANCER MOONSHOT' logo, which consists of the words 'CANCER MOONSHOT' in white with a teal circle around the word 'MOONSHOT'. A teal play button icon is centered below the logo. The bottom half of the cover is light green and contains a grid of small images representing various cancer research and clinical trial activities. Two large white hexagonal buttons are positioned on the right side of the green section, one with a teal PDF icon and the text 'Download the Complete Report', and another with a teal book icon and the text 'Download an At-a-Glance'.

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- A. Network for direct patient engagement
- B. Cancer immunotherapy translational science network
- C. Therapeutic target identification to overcome drug resistance
- D. Creation of a national cancer data ecosystem
- E. Fusion oncoproteins in pediatric cancer
- F. Symptom management research
- G. Precision prevention and early detection
- H. Retrospective analysis of biospecimens from patients treated with standard of care
- I. Creation of human tumor atlas
- J. Development of new enabling technologies

# ***FY17 Cancer Moonshot funding: Initial Implementation of Blue Ribbon Panel Recommendations***

- Pediatric Fusion Proteins
  - APRC supplement program
  - core resources
- Technology
  - APRC supplement program
  - IMAT RFA
  - PDX development centers
- Immunotherapy
  - biomarker development labs RFA for adult and pediatric;
  - canine immunotherapy;
  - expand CITN to include pediatrics
  - Clinical center lab
  - Autoimmune sequelae – collaboration with NIAID
- Therapeutic resistance RFA
- Retrospective risk stratification – resource development
- Human tumor atlas
  - Pilot projects
- Prevention and Early Detection
  - HPV vaccine trial
- Implementation Science
  - Symptom management (oral cancer agents)
  - Reduce over-screening
  - Tobacco control supplements

# One Dose HPV Vaccine Efficacy Trial: Moonshot

- Goal: Determine if a single HPV vaccine dose confer long-term protection in adolescent girls
- Four arm Non-inferiority RCT in Costa Rica: 1 & 2 doses Gardasil-9 (Merck), 1 & 2 doses Cervarix (GlaxoSmithKline)
- Primary end-point: reduction in persistent HPV16/18 cervical infection
- Collaboration between Gates Foundation and NCI; companion immunogenicity trials in USA & Tanzania; HPV serology standardization project
- Potential impact if results are positive: Increase HPV vaccine uptake, save millions of dollars
- More info: Kreimer et al, JNCI 2015; Clinicaltrials.gov: Identifier NCT03180034



# For new awards in FY18 – FY23: Cancer Moonshot Implementation Teams

- Implementation Teams aligned with BRP recommendations
- Composition: Staff from NCI & other Institutes
- Charge to each Implementation Team:
  - Develops and proposes initiatives for FY18 and beyond to help achieve a specific BRP Recommendation
  - Seeks input from cancer research community, including organizing workshops, etc.
  - Provides oversight and coordination of funded initiatives, including organizing meetings, providing supplements, etc.

# FY18 Moonshot Initiatives: BSA Recommendations June 20-21, 2017

- Tolerability of Anti-cancer Treatment Using Clinician and Patient-reported Outcomes
- Improving Management of Symptoms Across Cancer Treatments (IMPACT)
- Collaborative Research Network for Fusion Oncoproteins and Childhood Cancers
- Pediatric Immunotherapy Translational Science Network (PI-TSN)
- Immuno-oncology Translational Network (IOTN)
- Human Tumor Atlas Network
- Approaches to Identify and Care for Individuals with Inherited Cancer Syndromes
- Moonshot Coordinating Center for Mechanisms of Cancer Drug Resistance and Sensitivity Network
- Accelerating Colorectal Cancer Screening and Follow-up through Implementation Science (ACCSIS)



# Many potential collaborations

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Possible collaborations with:

Other Institutes/Agencies

Private philanthropy

Pharma/biotech

Other countries

International donors

# ICPC (International Cancer Proteogenome Consortium)

**10** MOUs / **11** countries /  
**18** institutions



## **Australia**

Team: Macquarie University, Children's Medical Research Institute, Garvan Institute of Medical Research, and Bioplatforms Australia Ltd.

## **Canada/Germany**

Team: McGill University, University of Victoria, University of British Columbia, and Leibniz Institute for Analytical Sciences

## **China**

Team: Shanghai Institute of Materia Medica, Chinese Academy of Science, and Fudan University

## **Japan**

Team: National Cancer Center Japan

## **South Korea**

Team: Korea Institute of Science and Technology

## **Sweden**

Team: Lund University

## **Switzerland**

Team: ETH Zürich

## **Taiwan**

Team: Academia Sinica  
Team: Chang Gung University

## **United Kingdom**

Team: University of Manchester, and University of Dundee

## **United States**

Team: NCI Clinical Proteomic Tumor Analysis Consortium

# Norman E. (Ned) Sharpless

- To be named NCI Director by the President



**NATIONAL CANCER INSTITUTE**