NCI Director’s Report

Clinical Trials and Translational Research Advisory Committee (CTAC)

Norman E. Sharpless, M.D.
July 14, 2021
NCI Appropriations
FY 2015 – 2022 (in millions)

21st Century Cures Act - orange
Childhood Cancer Initiative - green

FY 2015: $4,950
FY 2016: $5,215
FY 2017: $5,689
FY 2018: $5,965
FY 2019: $6,144
FY 2020: $6,440
FY 2021: $6,559
FY 2022: $6,733

+ $306M COVID-19 serology (April 2020)
Just released: Cancer Trends Progress Report

Cancer Trends Progress Report

Online Summary of Trends in U.S. Cancer Control Measures

Prevention  Early Detection  Diagnosis  Treatment  Life After Diagnosis  End of Life

progressreport.cancer.gov
Just released: Annual Report to the Nation

National Trends in Cancer Death Rates

ANNUAL REPORT TO THE NATION ON THE STATUS OF CANCER

MEN

- Bones and Joints: 2.7%
- Oral Cavity & Pharynx: 0.6%
- Soft Tissue including Heart: 0.5%
- Brain & Other Nervous System: 0.4%
- Liver & Intrabdominal Bile Duct: 0.4%
- Pancreas: 0.3%
- Non-Melanoma Skin: -0.1%
- Prostate: -0.4%
- Myeloma: -0.5%
- Bladder: -1.3%
- Esophagus: -1.9%
- Non-Hodgkin Lymphoma: -1.9%
- Colon & Rectum: -2.1%
- Leukemia: -2.2%
- All Sites: -2.4%
- Kidney & Renal Pelvis: -2.5%
- Larynx: -2.5%
- Stomach: -5.2%
- Lung & Bronchus: -5.7%

WOMEN

- Uterus: 2.0%
- Liver & Intrabdominal Bile Duct: 1.1%
- Brain & Other Nervous System: 0.4%
- Pancreas: 0.2%
- Soft Tissue including Heart: 0.1%
- Oral Cavity & Pharynx: -0.6%
- Bladder: -0.7%
- Cervix: -1.6%
- Breast: -1.4%
- Gallbladder: -1.4%
- Gastroesophageal: -1.7%
- Kidney & Renal Pelvis: -1.9%
- Esophagus: -1.9%
- All Sites: -1.9%
- Myeloma: -1.9%
- Stomach: -2.0%
- Colon & Rectum: -2.4%
- Breast: -2.4%
- Non-Hodgkin Lymphoma: -4.3%
- Lung & Bronchus: -4.4%
- Melanoma: -4.4%

AVERAGE ANNUAL PERCENT CHANGE (AAPC) 2014-2018
**U.S.-U.K. Bilateral Cancer Summit**

“We will convene the first U.S.-U.K. Bilateral Cancer Summit and bring together researchers, patients, and other stakeholders to share ideas and identify opportunities for collaboration to accelerate advances in lifesaving approaches to cancer, which remains a leading cause of death worldwide.”

- Joint statement issued June 10, 2021
## NCI COVID-19 in Cancer Patients Study (NCCAPS)

<table>
<thead>
<tr>
<th><strong>875</strong></th>
<th><strong>1,150</strong></th>
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</thead>
<tbody>
<tr>
<td>TRIAL SITES ACTIVATED IN 50 STATES + DC, PUERTO RICO, AND CANADA</td>
<td>ENROLLED</td>
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<tr>
<td>Special emphasis on minority, underserved and rural communities</td>
<td>Participants will be followed for 2 years</td>
</tr>
<tr>
<td>91 pediatric patients enrolled</td>
<td>Aims to enroll 2,000 patients across 1,000 sites in U.S.</td>
</tr>
<tr>
<td>Launched May 21, 2020 Conception to Launch in 6 weeks</td>
<td>ASCO 21 ABSTRACTS #6565 #6566</td>
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</tbody>
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Launched May 21, 2020
Conception to Launch in 6 weeks
Aims to enroll 2,000 patients across 1,000 sites in U.S.

As of July 8, 2021.
Impact of COVID-19 pandemic on cancer screening in the US

Breast Cancer Screening (Mammography)

Colorectal Cancer Screening (Colonoscopy and FIT)

Cancer Screening During the Coronavirus Disease-2019 Pandemic: A Perspective From the National Cancer Institute’s PROSPR Consortium. Gastroenterology, Volume 160, Issue 4, 999 - 1002
Cancer Moonshot℠

Cancer Moonshot 2017 – 2023
Millions of Dollars

$450
$400
$350
$300
$250
$200
$150
$100
$50
$0

$300M
$400M
$216M


Cancer Moonshot

National Cancer Institute

OVER
70
CONSORTIUMS
OR PROGRAMS

OVER
240
RESEARCH
PROJECTS
Human Tumor Atlas Network Data Portal

Welcome to the HTAN Data Portal!

The Human Tumor Atlas Network (HTAN) is a National Cancer Institute (NCI)-funded Cancer Moonshot initiative to construct 3-dimensional atlases of the dynamic cellular, morphological, and molecular features of human cancers as they evolve from precancerous lesions to advanced disease.

Explore the Data

<table>
<thead>
<tr>
<th>9</th>
<th>8</th>
<th>509</th>
<th>1260</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlases</td>
<td>Organs</td>
<td>Cases</td>
<td>Biospecimens</td>
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</table>
Adjuvant Olaparib for Patients with BRCA1- or BRCA2-Mutated Breast Cancer

Andrew N.J. Tutt, M.B., Ch.B., Ph.D., Judy E. Garber, M.D., M.P.H., Bella Kaufman, M.D., Giuseppe Viale, M.D., Debora Fumagalli, M.D., Ph.D., Priya Rastogi, M.D., Richard D. Gelber, Ph.D., Evandro de Azambuja, M.D., Ph.D., Anita Fielding, M.B., Ch.B., Judith Balmaña, M.D., Ph.D., Susan M. Domchek, M.D., Karen A. Gelmon, M.D., et al., for the OlympiA Clinical Trial Steering Committee and Investigators

<table>
<thead>
<tr>
<th></th>
<th>Placebo</th>
<th>Olaparib</th>
<th>Difference: 8.8 percentage points</th>
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</thead>
<tbody>
<tr>
<td>3-year invasive</td>
<td>77.1%</td>
<td>85.9%</td>
<td>95% CI: 4.5 to 13.0.</td>
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<tr>
<td>disease-free survival</td>
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<table>
<thead>
<tr>
<th></th>
<th>Placebo</th>
<th>Olaparib</th>
<th>Difference: 7.1 percentage points</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-year distant</td>
<td>80.4%</td>
<td>87.5%</td>
<td>95% CI: 3.0 to 11.1</td>
</tr>
<tr>
<td>disease-free survival</td>
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</table>
Proteogenomic and metabolomic characterization of human glioblastoma

- Phosphorylated PTPN11 and PLCG1 represent a signaling hub in RTK-altered tumors
- Four immune GBM subtypes exist, characterized by distinct immune cell populations
- Mesenchymal subtype EMT signature is specific to tumor cells, but not to stroma
- Histone H2B acetylation is enriched in classical GBMs with low macrophage content

Wang et al., 2021, Cancer Cell 39, 509–528
April 12, 2021 https://doi.org/10.1016/j.ccell.2021.01.006
NCI RAS Initiative - Proteomic Assays to Oncogenic Growth Signaling Networks

- Goal of RAS initiative - develop assays to quantify RAS signaling
- Developed community resource of 256 validated multiplexed mass spec assays for quantifying protein expression and phosphorylation through the receptor tyrosine kinase, MAPK, and AKT signaling networks
- Assays replace over 60 western blots
- SOPs, fit-for-purpose validation, and reagents publicly available

Whiteaker et al., 2021, Cell Reports Met. 2021, 100015, ISSN 2667-2375-509-528
Genomic Classification and Clinical Outcome in Rhabdomyosarcoma (RMS)

• International consortium study designed to determine the incidence of driver mutations and their association with clinical outcome
• Led by Javed Khan, M.D and Jack F. Shern, M.D. of CCR
• Analyzed DNA from 641 patients
• The presence of mutations in TP53, MYOD1, and CDKN2A, appears to be associated with a more aggressive form of the disease and a poorer chance of survival.

Journal of Clinical Oncology; Published online June 24, 2021; DOI: 10.1200/JCO.20.03060
### NCI Equity and Inclusion Program

#### EQUITY COUNCIL

<table>
<thead>
<tr>
<th>Chair</th>
<th>Co-Chair</th>
<th>Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ned Sharpless</td>
<td>Paulette Gray</td>
<td>Mark Alexander, Andrea Apolo, Nelvis Castro, Bob Croyle, Montse Garcia-Closas, Anne Lubenow, Ji Luo, Donna Siegle, Dinah Singer, Sanya Springfield</td>
</tr>
</tbody>
</table>

#### WORKING GROUP 1
**Enhancing Research to Address Cancer Health Disparities**

**CO-CHAIRS**
- Jim Doroshow
- Worta McCaskill-Stevens
- Tiffany Wallace

#### WORKING GROUP 2
**Ensuring Diversity of Thought and Background in the Cancer Research Workforce**

**CO-CHAIRS**
- LeeAnn Bailey
- Susan McCarthy
- Glenn Merlino

#### WORKING GROUP 3
**Promoting an Inclusive and Equitable Community at NCI**

**CO-CHAIRS**
- Shannon Bell
- Satish Gopal
- Paige Green

#### WORKING GROUP 4
**Systematic Tracking and Evaluation of Equity Activities**

**CO-CHAIRS**
- Michelle Bennett
- Doug Lowy

#### WORKING GROUP 5
**Communications and Outreach for Equity Activities**

**CO-CHAIRS**
- Peter Garrett
- Angela Jones
- Anita Linde
Joint BSA-NCAB Meeting - June 14, 2021

Enhancing Research to Address Cancer Health Disparities
Tiffany Wallace, Ph. D.

Ensuring Diversity of Thought and Background in the Cancer Research Workforce
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Promoting an Inclusive and Equitable Community at NCI
Paige Green, Ph.D.

View the presentations and discussions at cancer.gov.
National Cancer Act of 1971 50th Anniversary
Discussion