New Acting NCI Director
Doug Lowy, MD
as of April 1, 2015
Precision Medicine
Precision Medicine in Cancer Treatment

- President Obama has proposed $70 million in his FY16 budget for the Precision Medicine Initiative in Oncology (PMI-Oncology)

- Future workshop to explore the translational potential for the specific re-activation and/or replacement of tumor suppressor gene activities
Precision Medicine in Cancer Screening

- Moving from screening based mainly on “pattern recognition” towards screening based mainly on molecular understanding of disease and its application to molecular diagnostics

- The example of cervical cancer screening

- Cytologic (Pap) screening is more sensitive for detecting squamous cell cancer precursors than adenocarcinoma precursors; squamous cell cancer incidence has decreased, but not adenocarcinoma
HPV testing can prevent more cervical cancers, especially adenocarcinomas, than cytology.

Pooled cervical cancer incidence from 4 randomized controlled trials of cytology (control arm) vs. HPV testing (experimental arm).

* Ratio of incidence with HPV testing vs. incidence with cytology

Focus on specific cancers with health disparities (high-risk populations)

- Identify the specific cancers
- Some possible examples: colorectal cancer, liver cancer, breast cancer, prostate 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
Novel recurrently mutated genes in African American colon cancers

Kishore Guda\textsuperscript{a,b,c}, Martina L. Veigl\textsuperscript{b,c,1}, Vinay Varadan\textsuperscript{a,b,1}, Arman Nosrat\textsuperscript{d}, Lakshmeswari Ravi\textsuperscript{d}, James Lutterbaugh\textsuperscript{d}, Lydia Beard\textsuperscript{d}, James K. V. Willson\textsuperscript{e}, W. David Sedwick\textsuperscript{b,c,d}, Zhenghe John Wang\textsuperscript{b,f}, Neil Molyneaux\textsuperscript{f}, Alexander Miron\textsuperscript{f}, Mark D. Adams\textsuperscript{g}, Robert C. Elston\textsuperscript{b,h}, Sanford D. Markowitz\textsuperscript{b,c,d,i,2,3}, and Joseph E. Willis\textsuperscript{b,c,i,1,2}

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“...Mutations in a set of 15...genes appear to be strongly preferentially associated with CRCs arising in AA versus Caucasian individuals, suggesting an important difference in the mutational landscapes of CRCs arising in different ethnic groups. “

Other Program Updates
Outstanding Investigator Award

- To provide long-term support to experienced investigators with outstanding records of cancer research productivity who propose to conduct exceptional research.

- To allow investigators the opportunity to take greater risks, be more adventurous in their lines of inquiry, or take the time to develop new techniques.
Pancreatic Cancer Detection Consortium

- Support research for the development and testing of new molecular and imaging biomarkers for identifying patients at high risk for PDAC

- Multi-disciplinary, collaborative teams address:
  - identification and testing of biomarkers measurable in bodily fluids for early detection of PDAC or its precursor lesions
  - determine which pancreatic cysts are likely to progress to cancer
  - develop molecular- and/or imaging-based approaches for screening populations at high risk of PDAC
  - conduct biomarker validation studies
  - collect longitudinal biospecimens for the establishment of a biorepository

The Declining Purchasing Power of the NCI Budget

The dashed line at $2.9 billion shows that the current NCI budget, adjusted for inflation, is essentially the same as the NCI budget in FY 1999.

Source: NCI Office of Budget and Finance
### Competing RPG & NCI Total Obligations

<table>
<thead>
<tr>
<th>Competing RPG Obligations</th>
<th>NCI Total Obligations</th>
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</thead>
<tbody>
<tr>
<td><strong>FY 2012</strong></td>
<td><strong>FY 2013</strong></td>
</tr>
<tr>
<td>Competing RPGs - Obligations</td>
<td>414,003,721</td>
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<tr>
<td>Competing RPGs - Count</td>
<td>1,085</td>
</tr>
<tr>
<td>NCI Total Obligations</td>
<td>5,067,341,795</td>
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</tbody>
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- **Competing RPG - Obligations**: The obligations for competing RPGs have slightly increased from FY 2012 to FY 2013, then saw a slight rise again in FY 2014. The estimation for FY 2015 is not available.
- **Competing RPG - Count**: The count of competing RPGs has increased from FY 2012 to FY 2013 and then again in FY 2014, with an estimation for FY 2015.
- **NCI Total Obligations**: The total obligations for the NCI have seen a slight decrease from FY 2012 to FY 2013, followed by an increase in FY 2014 and a reduction in the estimated FY 2015 obligations.
Recent modifications to RPG pool

- Decreasing the cuts to modular grants from 17% to 8.5%.

- Outstanding Investigator Awards: will increase the average size of the awards.
NCI Cancer Centers

- P30 core grants
Recent Personnel Changes

Retirements
- Bob Wiltrout, Center for Cancer Research (CCR)
- Joe Tomaszewski, Division of Cancer Treatment and Diagnosis (DCTD)
- Susan Erickson, Office of Government and Congressional Relations (OGCR)

New Leadership
- Toby Hecht, Deputy Director, DCTD
- Lee Helman, Acting Director, CCR
- Glenn Merlino, Acting Scientific Director (Basic), CCR
- MK Holohan, Acting Director, OGCR
- Peter Garrett, Director, Office of Communications and Public Liaison (OCPL)
New Version of Cancer.gov and Cancer.gov/espanol