A Perspective on the FY22 NCI Budget Appropriation

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Principal Deputy Director

NCI Board of Scientific Advisors meeting
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Thanks for burning lots of midnight oil:
Omnibus budget released March 9, signed into law March 15

• Holly Gibbons & MK Holohan: Office of Government & Congressional Relations

• Weston Ricks & Angela Perkins: Office of Budget & Finance

• Vivian Pham, Tenille McCatty, Denise Brandenburg, Wendy Teng & Nelson Garcia: Office of Extramural Finance & Information Analysis

• Kelli Marciel & Esther Pak: Office of Communications & Public Liaison
Topics

• FY22 paylines
• RPG pool: a critical part of NCI budget; other parts of the budget also support key research activities
• Some RPG trends 2016-2022
• How NCI reaches RPG pool budget decisions
NCI Appropriations
FY 2015 – 2022 (in millions)

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

Also, ARPA-H: $1B
(available FY 2022 - 24)
### NCI Research Project Grants (RPG) Funding Policy for FY 2022

<table>
<thead>
<tr>
<th>Competing Grants</th>
<th>Non-Competing Grants</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TYPE</strong></td>
<td><strong>PAYLINE</strong></td>
</tr>
<tr>
<td><strong>R01</strong> Grants for Established and New Investigators</td>
<td>11th Percentile</td>
</tr>
<tr>
<td><strong>R01</strong> Grants for Early-Stage Investigators (ESIs)</td>
<td>16th Percentile</td>
</tr>
<tr>
<td><strong>R21</strong> Exploratory Grants</td>
<td>9th Percentile</td>
</tr>
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<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
How does NCI spend its money? Based on FY20 actuals and excludes Cancer Moonshot

From September 2021 NCAB presentation: https://deainfo.nci.nih.gov/advisory/ncab/0821/Lowy.pdf

- NCI supports a lot of research and other activities that are outside the RPG pool
- A few non-RPG activities: Cancer center support grants, SPORES, training

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extramural Funding</td>
<td>75%</td>
</tr>
<tr>
<td>Research Project Grants</td>
<td>43%</td>
</tr>
<tr>
<td>Centers &amp; SPOREs</td>
<td>9%</td>
</tr>
<tr>
<td>Other Research Grants</td>
<td>8%</td>
</tr>
<tr>
<td>National Research Service Awards (NRSA)</td>
<td>2%</td>
</tr>
<tr>
<td>Research Management &amp; Support</td>
<td>7%</td>
</tr>
<tr>
<td>R&amp;D Contracts</td>
<td>13%</td>
</tr>
<tr>
<td>Intramural Research</td>
<td>17%</td>
</tr>
<tr>
<td>Buildings &amp; Facilities</td>
<td>0.5%</td>
</tr>
<tr>
<td>Other Funding</td>
<td>25%</td>
</tr>
</tbody>
</table>

*Note: The total may not add up to 100% due to rounding.*
Distribution of FY 2020 Research Project Grants

Based on FY 2020 Actuals and excludes Cancer Moonshot funding
NCI budget increased ~$1,054 M 2018-2022; distribution of the increase between RPGs and non-RPGs*

The RPG portion of NCI’s total budget increased from ~41% to ~44% between 2018 and 2022

*This is an estimated projection, as it includes projected FY22 expenditures; the increase does not include the Cancer Moonshot, which decreased by $104 M 2018-2022
Early-Stage Investigators (ESI): R01/R37 payline, awards 2016-2021

Payline (Percentile)

Number of Awards

Fiscal Year

2016 2017 2018 2019 2020 2021 (est.)

84 87 117 107 115 134

12 12 14 14 15 16

https://gsspubssl.nci.nih.gov/blog/articles?funding_patterns/2020
Established Investigators: R01 payline, competing awards 2016-2021

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Payline (Percentile)</th>
<th>Number of Awards</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>10</td>
<td>650</td>
</tr>
<tr>
<td>2017</td>
<td>10</td>
<td>650</td>
</tr>
<tr>
<td>2018</td>
<td>9</td>
<td>676</td>
</tr>
<tr>
<td>2019</td>
<td>8</td>
<td>687</td>
</tr>
<tr>
<td>2020</td>
<td>10</td>
<td>797</td>
</tr>
<tr>
<td>2021 (est.)</td>
<td>11</td>
<td>811</td>
</tr>
</tbody>
</table>

Some RPG pool funding categories & priorities

- Although almost all RPG awards are multiyear awards (average duration almost 5 years), NCI generally funds only the first year in the fiscal year the awards are made, to prioritize funding competing awards.

- With the proposed FY22 paylines, ~52% of the increase in the FY22 NCI appropriation will be invested in the RPG pool.

- Each year, there are two overall investment categories within the RPG pool:
  - 1) Competing awards; 2) Non-competing awards.
Established Investigators: R01 payline, competing awards 2016-2021:
Most awards completed in 2021 were initially awarded in 2017

![Bar chart showing payline and number of awards from 2016 to 2021](https://gsspubssl.nci.nih.gov/blog/articles?funding_patterns/2020)

- Payline (Percentile):
  - 2016: 650
  - 2017: 650
  - 2018: 676
  - 2019: 687
  - 2020: 797
  - 2021 (est.): 811

- Number of Awards:
  - 2016: 10
  - 2017: 10
  - 2018: 9
  - 2019: 8
  - 2020: 10
  - 2021 (est.): 11

Fiscal Year: 2016 to 2021

Funding competing and non-competing RPG awards

• Two main funding sources
  • Turnover of funds from non-competing RPG awards completed in the prior year
  • Addition of funds from the NCI appropriation, if turnover dollars are insufficient
• The dollars derived from completed awards are usually lower than what is needed; several factors account for this discrepancy
  • For competing awards:
    • Number of completed awards will be smaller than the number of competing awards
    • Inflation: the average cost of each competing award will be higher than average cost of each completed award
  • For non-competing awards:
    • Each year, the total number of awards and average amount of each award will usually be higher than in previous year
Funding non-competing RPG awards at <100% of commitment level

- NCI considers this option only when funds from turnover of completed awards plus funds from NCI appropriation are insufficient.
- In these situations, the overall issue is whether to prioritize making more awards, i.e., having a higher payline, or to prioritize funding non-competing grants at 100% commitment.
- NCI usually prioritizes funding more competing awards.
Summary

• NCI has prioritized RPG funding
  • But is not neglecting the other parts of its research portfolio

• Despite the RPG prioritization, NCI has decided the FY22 R01 payline for experienced investigators will be at the 11\textsuperscript{th} percentile, the same as FY21, and to support non-competing awards at 98% and to exempt ESI awards and training awards

• Multiple factors have contributed to these decisions