A Closer Look at the NCI Budget and RPG Pool

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December 3, 2019
How does NCI spend its appropriation?

What has driven the increase in NCI’s grant applications?
How does NCI spend its money?

Based on FY 2019 estimates for FY 2019 and excludes Cancer Moonshot funding
How has NCI spent the increases since 2014 ~$789M?

The RPG portion of NCI’s total budget increased from ~41% to ~43% between 2014 and 2019.
How does NCI spend its money?

Based on FY 2019 estimates for FY 2019 and excludes Cancer Moonshot funding.
FY 2019 Research Project Grants

Based on FY 2019 estimates for FY 2019 and excludes Cancer Moonshot funding
How does NCI spend its money?

Based on FY 2019 estimates for FY 2019 and excludes Cancer Moonshot funding.
What are Other Research Grants?

Based on FY 2019 estimates for FY 2019 and excludes Cancer Moonshot funding.
How does NCI spend its money?

Based on FY 2019 estimates for FY 2019 and excludes Cancer Moonshot funding.
Based on FY 2019 estimates for FY 2019 and excludes Cancer Moonshot funding
Non-Intramural Frederick National Lab for Cancer Research Activities

Examples of Direct Support Include:
- NCI Experimental Therapeutics (NExT)
- NCI Patient-Derived Models Repository
- Genomic Data Commons

Examples of Indirect Support Include:
- RAS Initiative
- Nanotechnology Characterization Lab
- Antibody Characterization Lab
- AIDS and Cancer Virology Program
- Laboratory Directed Exploratory Research
- Cryo-Electron Microscopy
- Laboratory Animal Science Program

* NCI also spends about 5% of its intramural budget at the Frederick National Lab for Cancer Research
NCI spends $260M to train and develop a strong workforce of cancer researchers*

* Excludes funding in the RPG Pool that supports graduate students, post-graduate fellows, and early stage investigators working within funded grant teams

Based on FY 2019 estimates for FY 2019 and excludes Cancer Moonshot funding
How did NCI manage increased costs in FY 2019?
(dollars in millions)

Sources of Funds

- Congressional increase $79
- NCI internal operating reductions $64
- Continuing grants policy at 97% $55

Major Budget Increases

- Mandatory costs* $63
- NCORP, NCTN, & Cancer Centers investments $49
- RPGs non-competing & competing investments $86

*Mandatory costs include HHS/NIH assessments, Secretary's & AIDS transfers, required pay and NRSA stipend increases, and additional SBIR requirements

Based on FY 2019 estimates for FY 2019 and excludes Cancer Moonshot funding
How does NCI spend its appropriation?

What has driven the increase in NCI’s grant applications?
Competing R01 applications vs. budgets for NCI & RPGs: Percent change since FY 2013

- NCI R01 Applications up ~50%
- NCI Budget up 20%

R01 Applications source: NIH RePORTER. 2019 applications estimated.
NCI budget shown here is the base appropriation; does not include Cancer Moonshot.
Success Rates for NIH & NCI Grant Applications
Data include all RPGs, including SBIR/STTR

Sources: NIH Data Book [http://report.nih.gov/nihdatabook/index.aspx](http://report.nih.gov/nihdatabook/index.aspx) and supplemental tables available in RePORT, and NCI DEA.
The number of *unique NCI R01/R37 applicants* has increased by 48% between FY 2013 and FY 2019.

<table>
<thead>
<tr>
<th>FY</th>
<th>NIH</th>
<th>Other IC</th>
<th>NCI</th>
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<td>2013</td>
<td>25,329</td>
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<td>23,780</td>
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<td>2019</td>
<td>28,839</td>
<td>24,156</td>
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Percent change 2013-2019: NIH 14%, Other IC 9%, NCI 48%
Influx of PIs to the NCI R01 Applicant Pool: Mainly From other NIH ICs and outside NIH

Net Movement into the NCI R01 Pool

<table>
<thead>
<tr>
<th>Year</th>
<th>NCI</th>
<th>Other IC Only</th>
<th>Outside NIH</th>
<th>Total Flux</th>
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<td>0</td>
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<td>2019</td>
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<td>981</td>
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</tr>
</tbody>
</table>

Cumulative Flux

- Total flux
- Other ICs
- Outside NIH
- NCI
Multiple-PI applications have increased faster than single-PI applications: FY 2013 - FY 2019

- 51% Increase in Total Applications
- 29% Increase in Single PI Applications
- 146% Increase in Multiple PI Applications
NCI R01/R37 applications to PARs increased substantially

Unit of Analysis: R01/R37 Applications
Increases in number of distinct NCI-issued PARs to which PIs have applied: FY09 - FY19
Conclusions / Summary

• **Major driver:** Increase in *unique applicants*
  - Many applicants coming to NCI were previously funded by other NIH ICs; others had never applied to NIH.

• **Secondary drivers:**
  - Increase in Multiple-PI applications
  - Increase in PARs & applications to PARs
  - More applications per PI (13% increase 2013-2019)