Funding the Best Science

NICHD Payline Discussion
Options to Optimize…

January 2016
Our grantees don’t like our payline

We aren’t that keen on it either
But most important is to fund the best science

Let’s talk
NICHD Historical Paylines, R01s

NIH doubling period
1998-2003
Application Trends

R01

R21

R03

Years:

Values:
1530 1603 1795 1852 1914 2258 2027 2036 2326
636 850 1121 1365 1510 1451 1549 1545 1530
594 647 683 574 688 532 492 457 455

Label:
0 500 1000 1500 2000 2500

Legend:
R01
R21
R03
NIH R01 Paylines (2015)

- NIA: 8%
- NCI: 9%
- NICHD: 9%
- NIEHS: 10%
- NIAID: 12%
- NIAMS: 12%
- NIBIB: 12%
- NHLBI: 13%
- NIDDK: 13%
- NINDS: 14%
Payline Components

- Grants
  - RPGs
    - R01, R21, R03, P01
  - Cooperative agreements
  - Centers
  - Other

- Contracts

- “Voluntary” Taps
NICHD Components as % of budget

- R01, 36%
- R21, 6%
- R03, 1%
- P01, 6%
- Contract, 6%
- Center, 6%
- Cooperative agreements, 4%
- Voluntary taps, 0.27%
- R21, 6%
Characteristics of scored applications

<table>
<thead>
<tr>
<th>Type</th>
<th>NICHD</th>
<th>NIH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Study</td>
<td>65% (2836)</td>
<td>36% (26855)</td>
</tr>
<tr>
<td>Animal Study</td>
<td>35% (1517)</td>
<td>57% (42671)</td>
</tr>
<tr>
<td>Requested Direct Costs (M)</td>
<td>1.2 1.6 2.4</td>
<td>1.2 1.2 1.8</td>
</tr>
</tbody>
</table>

Data from M Lauer, OER, NIH
R01 direct costs: NICHD higher and increasing

Data from M Lauer, OER, NIH
R01 direct costs: NICHD higher and bimodal

Data from M Lauer, OER, NIH
NICHD budgets higher for human studies.

Data from M Lauer, OER, NIH
Summary of NICHD funding

- Payline declined, applications increasing
- No change over time in scores
- Compared to other ICs:
  - More human subjects studies and fewer animal studies
  - Higher requested budgets
    - Increasing over time
    - Higher budgets for human subjects work
• Best practices for making funding decisions

• Efficiency of funding
Spectrum of R01 Grants Awarded
FY 2015; NICHD Unsolicited R01/R37 grants (includes PAs but not RFAs)

Data from M Lauer, OER, NIH
NICHD

Data from M Lauer, OER, NIH
NIH Award Overlap Coefficients (2015)

2014, 2013 HD was 2nd, 2011 HD was 3rd

ICs with paylines have lower coefficients
Lower the coefficient = more adherent to payline

Data from M Lauer, OER, NIH
NIH Findings

• NIH Strategic plan discusses funding strategy
• ICs are more similar than different; more consistency across ICs than expected

• Recommendations
  • Consider PI minimum time
  • Consider limit # grants/PI
  • Select pay – best science
What is needed to fund the best science?
NICHD Funding Level and Payline

1% = ~$10.0 M

based on 2014 data
Implementation

• Tighten referral guidelines
• Tighten transfer acceptance
• Clinical trials by FOA
• Stricter methods for large grant acceptance
• Limit PA, PAR, and secondary assignments
Additional Considerations

• Stringent on > $1M applicants
• Limit long-standing grants
• Limit duration of awards
• P01s by FOA (no parent FOA)

• Limit mechanisms
• Examine larger programs to find savings
• Limit # awards to a PI; Require higher % effort
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**Limit mechanisms**

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2014 NICHD Funding by Mechanism (M)

- R01, 429
- P01, 75
- Centers, 70
- Contracts, 75
- Coop clin, 40
- R21, 51
- ~$10M to move payline by 1%
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Top NICHD programs by FY 15 Funding

<table>
<thead>
<tr>
<th>Program</th>
<th>Funding</th>
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<tbody>
<tr>
<td>Westat Pediatric-Maternal HIV/AIDS</td>
<td>$41.3 M</td>
</tr>
<tr>
<td>Adolescent Medicine Trials Network</td>
<td>$28.5 M</td>
</tr>
<tr>
<td>IDD Centers</td>
<td>$25.0 M</td>
</tr>
<tr>
<td>NCTRI (formerly SCCPRIR)</td>
<td>$22.0 M</td>
</tr>
<tr>
<td>Maternal Fetal Medicine Units</td>
<td>$15.8 M</td>
</tr>
<tr>
<td>Neonatal Research Network</td>
<td>$15.0 M</td>
</tr>
<tr>
<td>Human structural birth defects</td>
<td>$13.9 M</td>
</tr>
<tr>
<td>Leadership for HIV/AIDS clinical trials</td>
<td>$13.8 M</td>
</tr>
<tr>
<td>Autism Centers of Excellence</td>
<td>$12.1 M</td>
</tr>
<tr>
<td>Population Research Infrastructure</td>
<td>$11.0 M</td>
</tr>
<tr>
<td>Contraceptive Clinical Trials Network</td>
<td>$10.9 M</td>
</tr>
<tr>
<td>Pediatric HIV/AIDS cohort study</td>
<td>$8.9 M</td>
</tr>
<tr>
<td>Learning disabilities centers and hubs</td>
<td>$8.5 M</td>
</tr>
<tr>
<td>Global Network</td>
<td>$7.3 M</td>
</tr>
<tr>
<td>Pelvic floor disorders network</td>
<td>$6.3 M</td>
</tr>
<tr>
<td>Top 15 programs: $196.4 M (16% of total budget)</td>
<td></td>
</tr>
<tr>
<td>Non AIDS: $119.7 M (10% of total budget)</td>
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</tbody>
</table>

Program totals include all FOAs related to program. Based on data downloaded from IMPAC II FY 2015 frozen (IRDB) files. Contracts data supplied by FMB.
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NICHD R01s FY2014 (n=1225)

- 72% had 1 R01
- 21% had 2 R01s
- 5% had 3 R01s
- 2% had 4 or more R01s

17.5% had R01s from other ICs
NICHD R01 PIs with multiple NIH R01s

306 NICHD PIs with ≥ 2 R01s

- 37% (n=114) only NICHD RO1s
- 63% (n=192) had R01s from other NIH ICs as well as from NICHD

FY2014
PI Percent Effort Supported on NICHD R01s, 2014

R01 PIs percent effort:
- Mean = 21.1%
- Median = 18.0%
- Mode = 16.6%
Funding the Best Science

- Flexibility for discretionary funding
- Identify savings by being more strategic about our investments in:
  - Mechanisms
  - # awards / investigator
  - Large programs
  - Acceptance of large grants
  - > 1M reviews
  - Participation in FOAs
Goal: Funding the Best Science
NICHD: R01 Payline & Success Rates

All R01 success rate

Type 1 R01 success rate

[Graph showing the success rates of All R01 and Type 1 R01 grants from 2001 to 2014.]