NIH Funding

- Iowa Perspective
- Key Problems
- Training Environment
- Rethinking the NIH Grant
- Review and Evaluation Process
## University of Iowa Data

<table>
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<tr>
<th>NIH Funding by Grant Type</th>
<th>2012</th>
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The Funding Problem:

Academic Culture vs Federal Sponsored Research

- Capitalistic Academy: Growth is the only way to achieve distinction
- Tenure based on obtaining grant funding
- Increasing # applicants vs decreasing funding pool
- Fund your own position
- Independent investigator vs multidisciplinary team
- PIs with more grants rewarded by institutions
- Sustaining a large lab requires fulltime grant writing
- Pressure to produce can lead to research misconduct
University Medical Schools

- Measures of productivity, distinction and ranking are based almost exclusively on grant funding.
- Schools of Medicine are heavily leveraged and subsidized by NIH funding.
- Translational medicine is considered second rate compared to bench science.
- The demand for laboratory investigation requires growth in research space.
Junior vs Senior Researchers

- How to compete with long standing researchers?
- New ideas vs Incremental research
- Tenure track vs Clinical track
- Protected time vs Accountability for all effort
- Existing lab infrastructure vs Starting-up
- Mentoring and improving competitiveness
The Training Environment

- Trainees vs Employees
- Cloning the faculty
- Predocs vs Postdocs
- Alternative careers
- Developing a career trajectory in a mentored setting
- Infrastructure demands
New Faculty Positions vs New PhDs

What’s Needed at NIH

- More grant opportunities
- Different grant opportunities
- Streamlined review process
- Clearer evaluation criteria
- Better reviewer training
- Investment in higher risk research
- Promotion of translational research/clinical trials
- Lead the culture change in academic medicine
Rethinking the NIH grant

- R01, R21 and P01 or what?
- It is about IMPACT. It’s all about IMPACT.
- Is there real and identifiable translation in the application?
- Develop a “rapid idea” grant mechanism to quickly test concepts. Short application with equally short review cycle.
- Limit the effort (inclusive of all combined NIH funding) of PI and Investigators to no more than 30%.
- Develop “term limits” on the number of times a grant can be renewed.
- Deliverables (contract) vs Aims (grant)
- Reward success with limited term “add-on” funding
Today’s Review Process

**What’s good:**
- Bulleted strengths and weaknesses
- Availability to read reviewer critiques
- Excellent NIH program officers and staff
- In-person Study Section review sessions

**What’s not so good:**
- Over emphasis on approach
- The Big Picture is lost
- Too many critiques per reviewer
- Inconsistency between reviewers
- Critiques highly variable and often provide minimal feedback
- Preliminary data interpreted to mean research nearly completed
- Too few submission deadlines
- Translational research not valued by study sections
- Critiques provide minimal feedback to reviewers
- Inconsistent scoring
Tomorrow’s Review Process

- **Timing:** Continuous review cycle with manuscript like evaluation
- **2-Step process:** Develop a short submission application with invitation to proceed to a full application based on ideas and concepts
- **Applicant Feedback:** Provide almost immediate feedback
- **Risk:** Truly endorse new ideas and high risk applications
- **Reviewer Feedback:** Continuously critique reviewers and provide constructive criticism
- **Workshops:** Mandatory participation by reviewers to improve critiques and feedback to applicants
- **Workload:** Reduce grant review workload
- **Scoring:** Better guidance on review criteria
Evaluation Criteria

- Provide more explicit guidance to reviewers
- Provide examples of excellent applications and poor applications
- Develop clear metrics for success as part of RFAs to assist reviewers in evaluating applications
- Improve evaluation guidance with specific criteria to improve consistency of scoring
- Provide weighting criteria for elements of the review to improve uniformity
- Emphasize **Impact** and the Big Picture
- Stress **Innovation** that can lead to economic development and commercialization
- Identify **Translation** aspects of proposal
Summary

- Current process is neither sustainable nor consistent
- Significant changes are needed
- Many good options exist
- Changes can be accomplished quickly and phased in over time
- NIH must take initiative to change the culture