Development of Tools to Answer Common Questions Regarding Biomedical Research Portfolios

Panel Session 1250

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Session Presenters

Elizabeth Hsu  
Session Chair

Duane Williams  
NCI-Viz: Developing an Agile Tool for Monitoring and Visualizing Funding Outputs and Understanding

Lisa Dunbar and Ned Talley  
Portfolio Analysis for Basic Biomedical Research Using NIHMaps: Lessons Learned and Future Possibilities

James Onken  
Data Analysis Tools and Systems in NIH’s Office of Extramural Research
About the National Institutes of Health (NIH)

- Primary US agency for supporting and conducting biomedical research
- Invests nearly $30.1B in biomedical research
- >80% funding awarded through nearly 50,000 competitive grants to >300,000 researchers at >2,500 research institutions
- About 10% funding supports nearly 6,000 intramural researchers
Overview of NIH Data Systems

- IMPAC II – extramural applications and awards
- NIH Intramural Database (NIDB) – intramural research
- Scientific Publication Information Retrieval and Evaluation System (SPIRES) – scientific publications resulting from NIH supported research (both intramural and extramural); maps publications from PubMed to their projects
- Research, Condition, and Disease Categorization (RCDC) – automated process of combining text data mining (categorizing and clustering using words and phrases) and NIH-wide definitions to categorize projects into different areas
- Interagency Edison (iEdison) – data system for government grantees and contractors to report government-funded inventions, patents, and utilization data
Overview of NIH Data Tools

- **Report Expenditures and Results (RePORTER)** – public tool to search funded projects
  - Combines information from IMPAC II (awarded projects only), NIDB, SPIRES, RCDC, and iEdison

- **Query, View, Report (QVR)** – internal tool to search applications and awards
  - Combines information from IMPAC II, NIDB, SPIRES, and RCDC
Motivation

- Current analyses conducted by repurposing administrative data and data systems designed for grants management
  - This can be done successfully – see paper “Using Grants Administrative Data to Glean Insights about the Research Enterprise: A Case Study from the US National Institutes of Health” (Session RTD2, Thursday 2 pm)
  - Not optimal for average user

- Tools presented are designed to make optimal use of existing administrative data and to make analyses more broadly accessible
  - Tools vary in scope and target audience
Potential Questions Tools Can Address

- **Timeliness**
  - What is the productivity of my grant portfolio/grantees?
  - Are my grantees doing something of interest that I should be aware of?
  - Has there been any recent activity in my portfolio that I should be aware of?

- **Scientific scope**
  - What is the scientific scope of my portfolio?
  - What are the similarities/overlaps with other portfolios?
  - What are the gap areas?

- **Specialized outcomes**
  - Have any projects in my portfolio resulted in patented technologies?
  - Are any of those patents associated with FDA-approved technologies?