Development of Tools to Answer Common Questions Regarding Biomedical Research Portfolios

Panel Session 1250

American Evaluation Association
EVALUATION 2014
October 16, 2014

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

National Institutes of Health

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?