Attributing Value

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Assessing value

(1) Define what is "success"

(2) Establish measures of success

(3) Create systems and supports to measure

(4) Collect data

(5) Analyze progress toward success

(6) Make adjustments, repeat

What is Failure?

Millennium Bridge was dubbed 'Wobbly Bridge' after a swaying motion led to its closure two days after opening

On 7 November 1940, the Tacoma Narrows Bridge collapsed under the force of wild oscillations caused by 40mph winds

http://eandt.theiet.org/magazine/2012/03/a-bridge-too-far.cfm

What is Success?

NIH's mission is to seek fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce illness and disability.

The goals of the agency are:

- to foster fundamental creative discoveries, innovative research strategies, and their applications as a basis for ultimately protecting and improving health;
- to develop, maintain, and renew scientific human and physical resources that will ensure the Nation's capability to prevent disease;
- to expand the knowledge base in medical and associated sciences in order to enhance the Nation's economic well-being and ensure a continued high return on the public investment in research; and
- to exemplify and promote the highest level of scientific integrity, public accountability, and social responsibility in the conduct of science.

http://www.nih.gov

What do we measure?

(1) Creative discoveries

(2) Innovative research strategies

(3) Application of discoveries and strategies

(4) Human and physical resources

(5) Knowledge base in medical sciences

(6) Integrity, accountability, and social responsibility

Logic Model

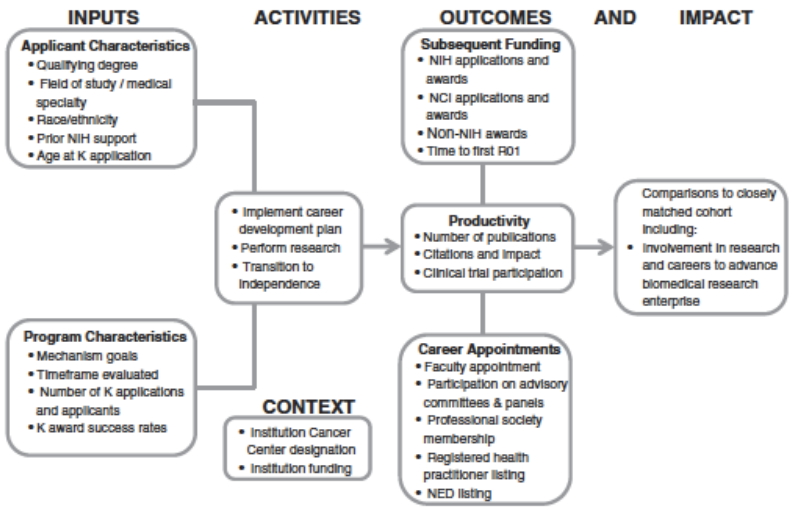


Fig. 1 Logic model of NCI K awards outcome evaluation. The logic model highlights K program inputs, activities, outcomes, and impact, as well as contextual factors. The inputs include the features (demographics) that define applicants to the NCI K program, as well as features of the K mechanisms. Activities include the actions that a funded researcher would take to further their research training and career plans, and context refers to specific features of the past and present environment in which program participants are functioning. Outcomes include measures that might be attributed to participation in the NCI K program and are divided into three broad categories of subsequent funding, productivity, and career appointments. Impact is assessed by comparing outcomes of closely matched cohorts of K awardees and non-awardees and examining proxies of scientific research and engagement

Mason, et al. (2013) Journal of Cancer Education 28:9-17 DOI: 10.1007/s13187-012-0444-y1

Outcomes: What discoveries has NIH funded?

NIH Public Access Policy Details

The NIH Public Access Policy implements Division G, Title II, Section 218 of PL 110-161 (Consolidated Appropriations Act, 2008). The law states:

The Director of the National Institutes of Health shall require that all investigators funded by the NIH submit or have submitted for them to the National Library of Medicine's PubMed Central an electronic version of their final, peer-reviewed manuscripts upon acceptance for publication, to be made publicly available no later than 12 months after the official date of publication: Provided, *That the NIH shall implement the public access policy in a manner consistent with copyright law.*

http://publicaccess.nih.gov/policy.htm

fundref

An **industry-wide methodology** for connecting scholarly publications to research funders

HOW FUNDREF WORKS

1. FundRef Registry provides a taxonomy of 4000 standardized funder names.
2. Manuscript tracking system vendors incorporate FundRef Registry into the publication submission processes. Publishers ask authors to select correct funders and provide grant numbers upon manuscript submission.
3. Funder information transferred to publisher production systems.
4. Publishers send funder information to CrossRef
5. Funders and others query CrossRef and receive DOIs and metadata for articles resulting from their funding.
6. Publishers may display FundRef data in CrossMark Record tab.

FundRef Workflow

http://www.crossref.org/fundref/index.html

Recommend: NIH should participate in FundRef and encourage participation by other funders.

Outcomes: What "applications of discoveries" has NIH supported?

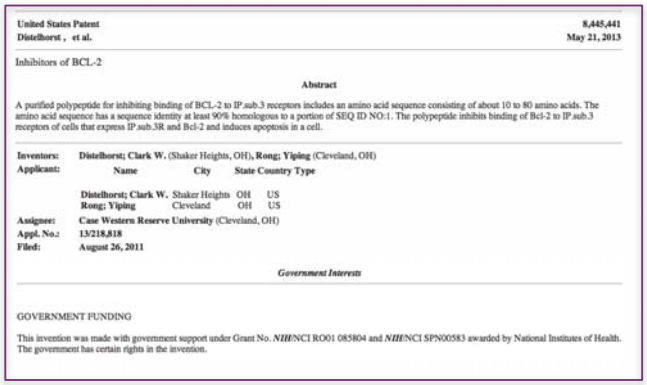
Bayh–Dole Act

From Wikipedia, the free encyclopedia

The **Bayh–Dole Act** or **Patent and Trademark Law Amendments Act** (Pub. L. 96-517, December 12, 1980) is United States legislation dealing with intellectual property arising from federal government-funded research. Sponsored by two senators, Birch Bayh of Indiana and Bob Dole of Kansas, the Act was adopted in 1980, is codified at 94 Stat. 3015, and in 35 U.S.C. § 200-212,[1] and is implemented by 37 C.F.R. 401.[2]

The key change made by Bayh-Dole was in ownership of inventions made with federal funding. Before the Bayh–Dole Act, federal research funding contracts and grants obligated inventors (where ever they worked) to assign inventions they made using federal funding to the federal government.[3] Bayh-Dole permits a university, small business, or non-profit institution to elect to pursue ownership of an invention in preference to the government.[4]

http://en.wikipedia.org/wiki/Bayh–Dole_Act



United States Patent
Distelhorst , et al.

8,445,441
May 21, 2013

Inhibitors of BCL-2

Abstract

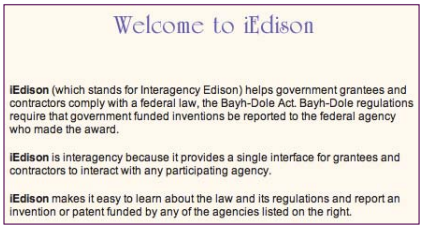
A purified polypeptide for inhibiting binding of BCL-2 to IP.sub.3 receptors includes an amino acid sequence consisting of about 10 to 80 amino acids. The amino acid sequence has a sequence identity at least 90% homologous to a portion of SEQ ID NO:1. The polypeptide inhibits binding of Bcl-2 to IP.sub.3 receptors of cells that express IP.sub.3R and Bcl-2 and induces apoptosis in a cell.

	Name	City	State	Country	Type
Inventors:	Distelhorst; Clark W. (Shaker Heights, OH), Rong; Yiping (Cleveland, OH)				
Applicant:	Distelhorst; Clark W.	Shaker Heights	OH	US	
	Rong; Yiping	Cleveland	OH	US	
Assignee:	Case Western Reserve University (Cleveland, OH)				
Appl. No.:	13/218,818				
Filed:	August 26, 2011				

Government Interests

GOVERNMENT FUNDING

This invention was made with government support under Grant No. *NIH*NCI RO01 085804 and *NIH*NCI SPN00583 awarded by National Institutes of Health. The government has certain rights in the invention.



Welcome to iEdison

iEdison (which stands for Interagency Edison) helps government grantees and contractors comply with a federal law, the Bayh-Dole Act. Bayh-Dole regulations require that government funded inventions be reported to the federal agency who made the award.

iEdison is interagency because it provides a single interface for grantees and contractors to interact with any participating agency.

iEdison makes it easy to learn about the law and its regulations and report an invention or patent funded by any of the agencies listed on the right.

https://s-edison.info.nih.gov/iEdison/

Recommend: Work with USPTO to implement standards for collection of name and grant information

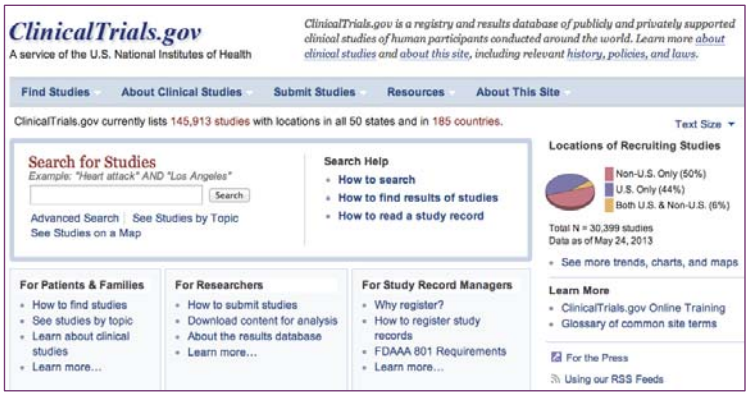
http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-adv.htm&r=17&f=G&l=50&d=PTXT&S1=NIH.GOTX.&OS=govt/NIH&RS=GOVT/NIH

Outcomes: Clinical trials

What is FDAAA (U.S. Public Law 110-85 or the Food and Drug Administration Amendments Act of 2007)?

On September 27, 2007, the President signed U.S. Public Law 110-85. The law includes a section on clinical trial databases (Title VIII) that expands the types of clinical trials that must be registered in ClinicalTrials.gov, increases the number of data elements that must be submitted, and also requires submission of certain results data.

http://grants.nih.gov/clinicaltrials_fdaaa/faq.htm



ClinicalTrials.gov
A service of the U.S. National Institutes of Health

ClinicalTrials.gov is a registry and results database of publicly and privately supported clinical studies of human participants conducted around the world. Learn more about clinical studies and about this site, including relevant history, policies, and laws.

Find Studies | About Clinical Studies | Submit Studies | Resources | About This Site

ClinicalTrials.gov currently lists 145,913 studies with locations in all 50 states and in 185 countries.

Text Size

Search for Studies
Example: "Heart attack" AND "Los Angeles"
Search
Advanced Search | See Studies by Topic
See Studies on a Map

Search Help
- How to search
- How to find results of studies
- How to read a study record

Locations of Recruiting Studies
Non-U.S. Only (50%)
U.S. Only (44%)
Both U.S. & Non-U.S. (6%)
Total N = 30,399 studies
Data as of May 24, 2013
- See more trends, charts, and maps

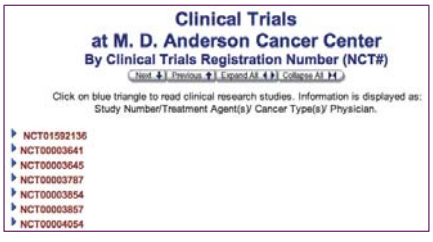
For Patients & Families
- How to find studies
- See studies by topic
- Learn about clinical studies
- Learn more…

For Researchers
- How to submit studies
- Download content for analysis
- About the results database
- Learn more…

For Study Record Managers
- Why register?
- How to register study records
- FDAAA 801 Requirements
- Learn more…

Learn More
- ClinicalTrials.gov Online Training
- Glossary of common site terms

For the Press
Using our RSS Feeds



Clinical Trials at M. D. Anderson Cancer Center
By Clinical Trials Registration Number (NCT#)

Next | Previous | Expand All | Collapse All

Click on blue triangle to read clinical research studies. Information is displayed as: Study Number/Treatment Agent(s)/ Cancer Type(s)/ Physician.

- NCT01592136
- NCT00003641
- NCT00003645
- NCT00003787
- NCT00003854
- NCT00003857
- NCT00004054

http://utmx-ext01a.mdacc.tmc.edu/dept/prot/clinicaltrialswp.nsf/NCT?openview

Recommend: implement standards for collection of name and grant information

http://clinicaltrials.gov

Outcomes: Who did NIH train?

Posted on April 11, 2013 by Sally Rockey

Taking On the Challenge of Better Biomedical Workforce Data http://nexus.od.nih.gov/all/2013/04/11/taking-on-the-challenge-of-better-biomedical-workforce-data/

The primary goal of the NIH Advisory Committee to the Director (ACD) biomedical research workforce working group was the creation of pathways through undergraduate, graduate and postdoctoral training that provide excellent preparation for biomedical research careers in a timely fashion, and that ensure future US competitiveness and innovation in biomedical research. In their report, the working group members described how they were "frustrated and sometimes stymied" by the quality of the data available on the biomedical research workforce, e.g., major gaps in information on the total number of individuals working as postdocs, inadequate information on postdocs who obtained degrees in other countries, and lack of systematic data on graduate students trained in labs supported by NIH research grants.

So to this end, we've been working on a number of plans to try and fill these gaps in biomedical workforce information. Here's a quick overview of the directions we are headed.

Big Hopes, Small Changes for Biomedical Training http://sciencecareers.sciencemag.org/career_magazine/previous_issues/articles/2012_12_14/caredit.a1200136

By Michael Price
December 14, 2012

Tilghman, Rockey, and the others in the working group laid out several recommendations aimed at shortening and diversifying doctoral programs and postdoc positions, increasing the proportion of trainees supported by training grants and fellowships instead of research grants, collecting more data on career outcomes, improving postdoc salaries, and promoting the staff scientist career path. After the June meeting, ACD formed an implementation team, headed by Rockey, to decide which recommendations to implement, and how to do it.

- **Identification of all NIH-supported students and postdocs**
- **Automated NRSA training tables**
- **Develop a Fed-wide researcher profile system**
- **Encourage adoption of unique persistent researcher IDs**

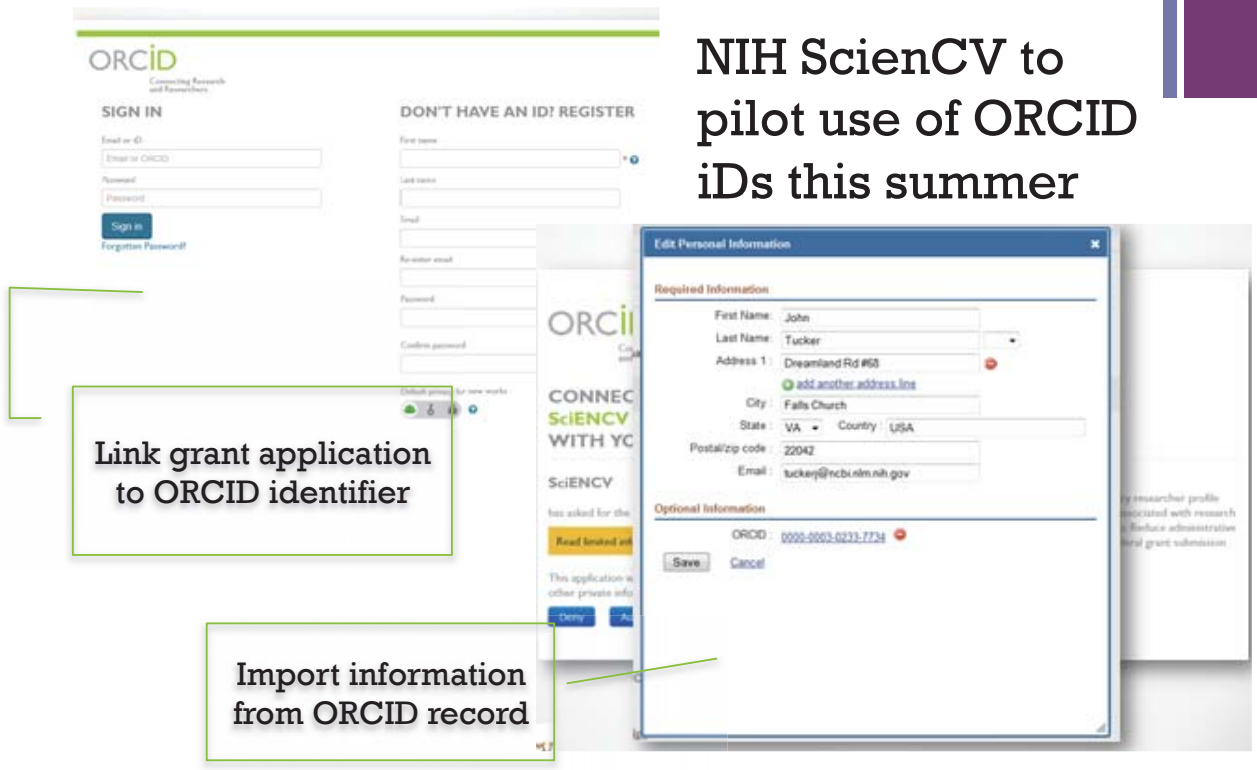
Tracking NIH-funded researchers

Encourage adoption of unique persistent researcher IDs: Identifying the output of individuals with commonly occurring names is difficult. Reducing name ambiguity within and across data systems is always expensive and time consuming. It appears that an international, non-profit organization called the Open Researcher and Contributor ID (ORCID) is gaining traction. ORCID is a persistent digital identifier that can be associated with author names in publications. The ORCID system also will allow individuals to identify their research output and create a registry of IDs. SciENcv will include a utility that make it easy for users to obtain an ORCID and to link it to their publications and grants. A broadly used researcher ID also will facilitate the identification of scientific output from those who work outside federally funded research programs. http://nexus.od.nih.gov/all/2013/04/11/taking-on-the-challenge-of-better-biomedical-workforce-data/

After Rockey's presentation, Tilghman remarked that although she was pleased that ACD seriously considered her report's recommendations, she "can't help but go back to [her] cynicism" about some of the language used in the implementation plans—specifically, the occurrence of words like "encourage" and "recommend." For example, she pointed to the implementation team's plan to encourage institutions to track and report the career outcomes for their students and postdocs. "This is a recommendation that's been made by every single committee, and always using the word 'encourage,'" she said. "It has been made for about 20 years and we know what the consequences of that [are]. ... Unless you have a stick, this won't happen."

Encourage? Require?

NIH ScienCV to pilot use of ORCID iDs this summer



Recommend: Implement ORCID

ORCID
Connecting Research and Researchers

ORCID provides a free registry of unique and persistent researcher identifiers. ORCID serves as a switchboard to link researcher identifiers, affiliations, and research works.

(1) Require use of ORCID IDs during the application process, link this to post-award outcomes reporting

(2) Require use of ORCID iDs for all persons supported on a grant

(3) Implement a workflow to post awarded grant information to a grantee's ORCID record

(4) Implement a workflow to allow researchers to search and link ORCID iDs to NIH grants in RePorter, and

(5) Link and store ORCID iDs in IMPAC II PI profile records.

(6) Encourage use of ORCID iDs by the USPTO and CT.org

Linking the who to the what: *Attributing Value*

Science. 2011 Aug 19;333(6045):1015-9. doi: 10.1126/science.1196783.

Race, ethnicity, and NIH research awards.

Ginther DK, Schaffer WT, Schnell J, Masimore B, Liu F, Haak LL, Kington R.

Department of Economics and Center for Science, Technology & Economic Policy, Institute for Policy & Social Research, University of Kansas, Lawrence, KS 66045, USA. dginther@ku.edu

Abstract

We investigated the association between a U.S. National Institutes of Health (NIH) R01 applicant's self-identified race or ethnicity and the probability of receiving an award by using data from the NIH IMPAC II grant database, the Thomson Reuters Web of Science, and other sources. Although proposals with strong priority scores were equally likely to be funded regardless of race, we find that Asians are 4 percentage points and black or African-American applicants are 13 percentage points less likely to receive NIH investigator-initiated research funding compared with whites. After controlling for the applicant's educational background, country of origin, training, previous research awards, publication record, and employer characteristics, we find that black applicants remain 10 percentage points less likely than whites to be awarded NIH research funding. Our results suggest some leverage points for policy intervention.

ADVISORY COMMITTEE TO THE DIRECTOR

Advisory Committee to the Director

Charter
Members
Meetings
Working Group Activities
Contact the ACD

Working Group on Diversity in the Biomedical Research Workforce

Working Group Reports

- Diversity in the Biomedical Research Workforce Working Group Report (PDF – 3,468KB)
- Executive Summary of the Working Group on Diversity in the Biomedical Research Workforce (PDF – 136KB)

NIH's Plan for Action:

- Evaluate current training programs
- Phase out unsuccessful programs, expand successful ones
- Increase number of early career reviewers, including those from underrepresented populations
- Examine grant review process for bias and develop interventions
- Improve support for grant applicants
- Gather expert advice on additional action steps

Summary

- Enhance existing datasets to support their use in evaluation (e.g., ensure that name and evidence information is collected in a fielded manner and exposed through public APIs)
- Work with other agencies to enhance existing datasets
- Map out program goals and clearly articulate measures
- Collect data (qual and quant) and test measures
- Use data to adjust programs