Visualizing the Intersections of Impact and BTAA Libraries' Investments in the Research Enterprise Using Government Data

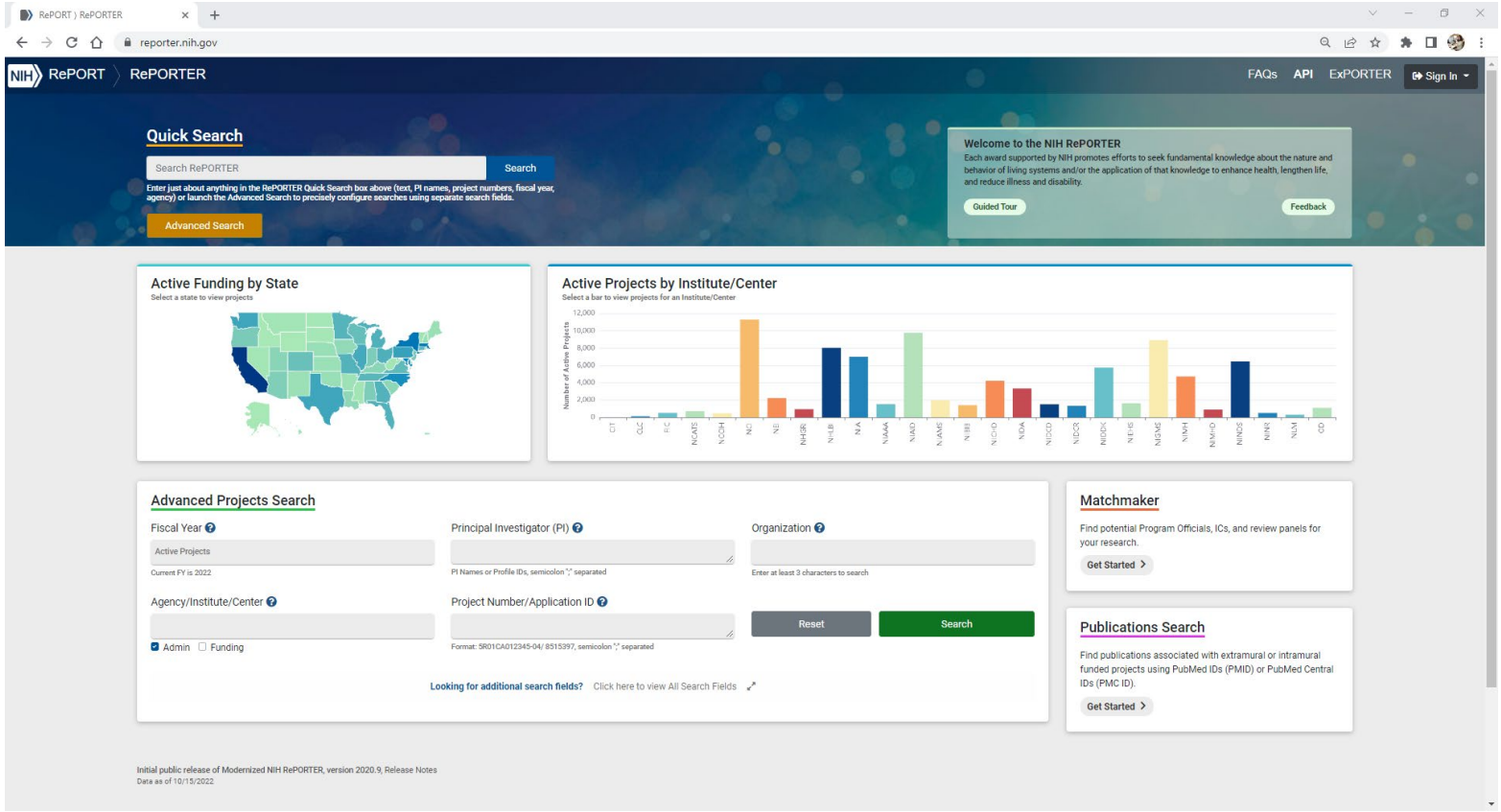
The Ohio State University
University Libraries

Project Objectives

Model open data on government spending and federally funded research outputs to:

- Visually demonstrate how libraries contribute to the research enterprise by providing information scholars need to both develop and sustain their research agendas, and
- Allow libraries to visualize and utilize this same data to inform the development of library collections and services.

Data Sources



iCite

LIBRARY JOURNAL

COUNTER
CONSISTENT CREDIBLE COMPARABLE

Summary of Data Gathered

Category	Value
Number of NIH grants 2010-2018	18,845
Average annual value of NIH funding for each school	$193M
Range NIH funding across BTAA schools	$15M-$616M
Number of publications	284,822
Number of references	5,403,273
Number of citations	4,720,449

Return on Investment

- Kaufman (2008) and Tenopir et al. (2010) relied on researchers to self-report use of library resources to develop successfully funded research proposals (ie. References, citations …).
- Both combined survey data with other publicly available financial data to calculate a high-level aggregate ROI quantifying the library's contribution to the research enterprise.

Calculations Required for ROI & Visualizations

Field	Calculation
Number of grants	countd([Core Project Number])
Total grant value	sum([Total Cost])
Total indirect cost value	sum([InDirect Cost IC])
Number of articles published by grant 2010-	{fixed [Core Project Number]: countd([Pmid])}
Number of grant articles published in this journal 2010-	countd([Pmid])

Calculations Required for ROI & Visualizations

Field	Calculation
Estimated journal price	sum([Average Cost Per Title 2018])
Adjusted library institutional cost	(countd([Pmid])/sum([annual number articles published by grant]))*.017
Library institutional cost	sum([Indirect Cost IC])*[adjusted library ic]
ROI	([Library IC]-sum([Average Cost Per Title 2018]))/sum([Average Cost Per Title 2018])
Cost per use	min([Average Cost Per Title 2018])/sum([Downloads])

Relative Citation Ratio iCite

- Bibliometric used to evaluate influence of federally funded research
- Measures influence of an article in relation to other articles in its field by examining its co-citation network
- Benchmarks article to other articles in its field to the median value 1.0
- As calculated, this measure is field- and time-normalized

Journal of the National Cancer Institute

Relative Citation Ratio (RCR) for each PMID

Show filters (alt+click)

Click on a circle to learn more about each article

36%
ROI

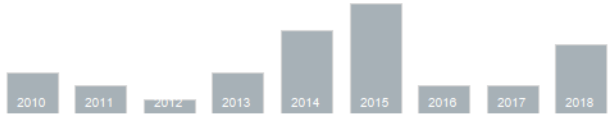
$0.36
cost per use

15,973
downloads
2015-2017

2010-2018
summary

Number of grants	21
Total grant value	$97M
Total indirect cost value	$52M
Number articles published by grant 2010-	3,636
Number of grant articles published in this journal 2010-	32
Estimated journal price	$5,722
Adjusted library institutional cost	0.0150%
Library institutional cost	$7,808
ROI	36%

34
articles published
2010-



articles published 2015-2017	34
downloads 2015-2017	15,973
Cost per use	$0.36

Journal of the National Cancer Institute

Relative Citation Ratio (RCR) for each PMID

Show filters (alt+click)

Click on a circle to learn more about each article

✓ Keep Only ⊘ Exclude

RCR Value = 1.520

NCI-RTOG translational program strategic guidelines for the early-stage development of radiosensitizers.
1/1/2013; 105: 11-24

Authors = Lawrence, Yaacov Richard; Vikram, Bhadrasain; Dignam, James J; Chakravarti, Arnab; Machtay, Mitchell; Freidlin, Boris; Takebe, Naoko; Curran Jr, Walter J; Bentzen, Soren M; Okunieff, Paul; Coleman, C Norman; Dicker, Adam P

Link to PubMed abstract
Link to articles citing from PubMed Central
Link to full-text in PubMed Central
Link to related publications in PubMed

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downloads
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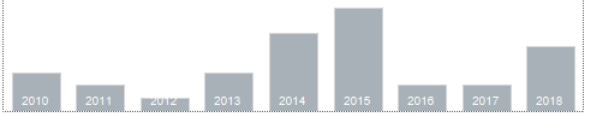

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