Enhancing the Impact of Your Research

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Find us at: https://libguides.galter.northwestern.edu/MIC

Our services are available to Feinberg School of Medicine Faculty, Staff, and Students.
In today’s presentation:

• Discuss the concept of research impact
• Cover strategies for enhancing research impact
• Demonstrate some tools and resources

Questions?
Interrupt me as needed, if you feel comfortable. Otherwise, I’ll watch for raised hands (in person) or questions in the chat (on Zoom).

Audience choice for the demonstration
During the presentation we will cover several tools and resources. If we have time at the end, you can decide as a group which tool or resource can be used for a live demonstration.
Defining Research Impact
What is research impact?

Research impact broadly means demonstrable and beneficial change in behaviors, beliefs and practices.

- **US National Institutes of Health**: The likelihood for the project to exert a sustained, powerful influence on the research field(s) involved.
- **Research England**: An effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life beyond academia.
- **US National Science Foundation**: The potential [for your research] to benefit society and contribute to the achievement of desired society outcomes.
- **Australian Research Council**: The contribution that research makes to the economy, society, environment or culture, beyond the contribution to academic research.
Why might **we** think about research impact?

Promotion & Tenure
Grant Applications
Progress Reports
Program Review

Though there are other many reasons ....
What are the types of research impact?

- **Understanding and awareness** – meaning your research helped people understand an issue better than they had before
- **Attitudinal** – your research helped lead to a change in attitudes
- **Economic** – your research contributed to cost savings, or costs avoided; or increases in revenue, profits or funding
- **Environmental** – benefits arising from your research aid genetic diversity, habitat conservation and ecosystems
- **Health and well-being** – your research led to better outcomes for individuals or groups
- **Policy** – your research contributed to new or amended guidelines or laws
- **Other forms of decision-making and behavioural impacts**
- **Cultural** – changes in prevailing values, attitudes and beliefs
- **Other social impacts** – such as access to education or improvement in human rights
- **Capacity or preparedness** – research that helps individuals and groups better cope with changes that might otherwise have a negative impact.
What types of outputs contribute to impact?

<table>
<thead>
<tr>
<th>Concept</th>
<th>Possible Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific output</td>
<td>Publications (quantity/quality)</td>
</tr>
<tr>
<td>Scientific impact</td>
<td>Citations received by academic papers, clinical guidelines, patents, policy reports, co-authored publications with industry</td>
</tr>
<tr>
<td>Scientific collaboration</td>
<td>Number or type of collaborators on grant applications, co-authored publications</td>
</tr>
<tr>
<td>Societal impact</td>
<td>Publishing clinical guidelines, patents, policy reports, mentions in social media,</td>
</tr>
<tr>
<td>Mobility</td>
<td>Change in researcher affiliation</td>
</tr>
<tr>
<td>Advancement of Knowledge</td>
<td>Renewal of research study, duration of study, type of funding sources, generation of ancillary research study</td>
</tr>
<tr>
<td>Economic Benefit</td>
<td>Research study findings result in reduced costs in the delivery of healthcare services.</td>
</tr>
<tr>
<td>Interdisciplinarity</td>
<td>Disciplinary classification of (cited) publications</td>
</tr>
</tbody>
</table>
Describing Research Impact
Narratives or case studies enable a story to be told and impact to be placed in context.

REF Impact Case Studies
https://impact.ref.ac.uk/casestudies/

Contributions to Science (NIH)
• the historical background that frames the scientific problem;
• the central finding(s);
• the influence of the finding(s) on the progress of science or the application of those finding(s) to health or technology; and.
• your specific role in the described work.

<table>
<thead>
<tr>
<th>Benefits of Narratives</th>
<th>Considerations for Narratives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uses quantitative and qualitative data</td>
<td>Automated collation of evidence is difficult</td>
</tr>
<tr>
<td>Allows evidence to be contextualized and a story told</td>
<td>Incorporating perspective can make it difficult to assess critically</td>
</tr>
<tr>
<td>Enables assessment in the absence of quantitative data</td>
<td>Time-consuming to prepare and assess</td>
</tr>
<tr>
<td>Allows collation of unique datasets</td>
<td>Difficult to compare like with like</td>
</tr>
<tr>
<td>Preserves distinctive account or disciplinary perspective</td>
<td>Rewards those who can write well, and/or afford to pay for external input</td>
</tr>
</tbody>
</table>

Research Impact Metrics

Narratives can be used in conjunction with metrics, to provide a more complete picture of impact.

Bibliometric examples

**H-index**: based on analysis of publication data using publications and citations to provide “an estimate of the importance, significance, and broad impact of a scientist’s cumulative research contributions.”

**Relative Citation Ratio**: citation-based measure of scientific influence of a publication. It is calculated as the citations of a paper, normalized to the citations received by NIH-funded publications in the same area of research and year.

**Journal Impact Factor**: The Journal Impact Factor is a measure reflecting the annual average (mean) number of citations to recent articles published in that journal.

Alternative metric examples

**News Mentions**: The number of mainstream online news and magazine outlets that reference a research output.

**Policy Mentions**: The number of times a research output has been cited in policy documents from government bodies or NGOs.

**Github: Forks, Collaborators, Watchers**: Github “Forks” are created when a user makes a copy of a repository. A “collaborator” is another Github user who is able to perform many actions on the files within the repository, including edits. “Watchers” are Github users who have asked to be notified of activity in a repository.”
# A Quick Note: Databases

<table>
<thead>
<tr>
<th>Database</th>
<th>Item Count and Content Coverage</th>
<th>Availability</th>
<th>Basic Metrics</th>
<th>Advanced Metrics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Google Scholar</strong></td>
<td>389M records [articles, books, theses, abstracts, court opinions, etc.]</td>
<td>Full free version</td>
<td>Google Scholar</td>
<td>Publish or Perish (free tool)</td>
</tr>
<tr>
<td>by Google</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PubMed.gov</strong></td>
<td>34M records [5,200 Medline journals as well as life sciences journals from PubMed Central and books from NCBI Bookshelf]</td>
<td>Limited free version; Galter Library full version</td>
<td>iCite</td>
<td>iCite (free tool)</td>
</tr>
<tr>
<td>by US National Library of Medicine</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Scopus</strong></td>
<td>75M records [210K books, 120K conferences, 44M patents, 25,100 journals]</td>
<td>Limited free version; Galter Library full version</td>
<td>Scopus</td>
<td>SciVal (no access at Northwestern)</td>
</tr>
<tr>
<td>by Elsevier</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Web of Science</strong></td>
<td>79M records [119K books, 220K conferences, 10M datasets, 46M patents, 34,586 journals]</td>
<td>Limited free version; Galter Library full version</td>
<td>Web of Science</td>
<td>InCites (limited Galter Library access)</td>
</tr>
<tr>
<td>by Clarivate Analytics</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Last updated 03/2021
The h-index is used as evidence of the scholarly influence of an author's, or group of authors', body of work.

The h-index is equivalent to the number of h publications by an author that have been cited h number of times.

The h-index can be calculated by hand, however it is offered in databases such as Scopus, Web of Science, and Google Scholar.

- Not field normalized.
- Point of time in a career will affect this metric.
- Inconsistent when you compare it from database to database.
Where to find it: h-index
Where to find it: h-index
Where to find it: h-index
Final Thoughts: h-index

**Metric statement:** Dr. Fauci has created an output of 1174 documents between 1965 and 2020, and his h-index is 178 (Scopus).

**What that means:** Dr. Fauci has at least 178 papers that have been cited at least 178 times.
Citation Count

Use Case
Citation count allows you to go beyond a number and describe why and where important ideas are spread from a researcher’s original work to subsequent citing works.

Definition
Citation count is the number of times an article is cited in other bodies of literature.

Location
Citation databases including Google Scholar, Scopus, Web of Science, and Dimensions, and the citation tool iCite.

Caveats
- Not field normalized.
- Inconsistent when you compare it from database to database.
- Citations are impacted by the age of the paper.
- Difficult to track citations to unpublished articles such as preprints or white papers.
Where to find it: Citation Count

Document details

New England Journal of Medicine
Volume 363, Issue 21, 18 November 2010, Pages 2036-2044

Influenza vaccines for the future (Review)
Lambert, L.C.*, Faucci, A.S.**

Division of Microbiology and Infectious Diseases, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, MD, United States
Office of the Director, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, MD, United States

Abstract

Metrics

Citations in Scopus
244

Field-Weighted Citation Impact
15.57

View all metrics
Where to find it: Citation Count

Web of Science

CURRENT CONCEPTS Influenza Vaccines for the Future

By: Lambert, LG (Lambert, Linda C, J1, Fauci, AS (Fauci, Anthony S, J1)

NEW ENGLAND JOURNAL OF MEDICINE
Volume: 363 Issue: 21 Pages: 2036-2044
DOI: 10.1056/NEJMra1002294
Published: NOV 18 2010
Document Type: Review

Keywords
KeyWords Plus: RANDOMIZED CONTROLLED TRIAL; RESEARCH AND DEVELOPMENT; PANDEMIC INFLUENZA; MF59 ADJUVANTED INFLUENZA; ANTIBODY-RESPONSE; UNITED STATES; DNA VACCINES; A VIRUSES; IMMUNOREACTIVITY; SAFETY

Author Information

Citation Network
In Web of Science Core Collection
214 Times Cited
Create Citation Alert
All Times Cited Counts
231 In All Databases
See more counts
Where to find it: Citation Count

Google Scholar search for "Influenza vaccines for the future" showing 439 results, with a highlighted article cited by 376 times.
Where to find it: Citation Count
Final Thoughts: Citation Count

**Metric statement:** The review article “Influenza vaccines for the future” which was co-authored by Dr. Fauci has 244 citations (Scopus).

**What that means:** There are 244 publications that have used this paper in their reference list since the paper was published in 2010.

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Self citations: To include or not to include?

For: You are an expert in a new field or are making strides in a field that continues to build on itself.

Against: Including self-citations makes you concerned that there will be an impression that you are gaming the system.
The JIF is useful in comparing the relative influence of journals within a discipline, as measured by citations. The JIF is calculated by taking all citations to the journal in the current JCR year to items published in the previous two years, divided by the total number of scholarly items (these comprise articles, reviews, and proceedings papers) published in the journal in the previous two years.

\[
\text{JIF} = \frac{\text{Citations in 2019 to items published in 2017 + 2018}}{\text{Number of citable items in 2017 + 2018}}
\]

The JIF is located in the Journal Citation Reports (WOS).

- Not field normalized.
- Only available for journals indexed in the Science Citation Index and Social Sciences Citation Index in the Web of Science Core Collection.
- Numerator can be inflated by items not counted in the denominator.
- Can be affected by self-citations or highly cited articles within the journal.
Where to find it: Journal Impact Factor (JIF)
Final Thoughts: Journal Impact Factor (JIF)

**Metric statement:** The Lancet has a JIF of 60.39, which is the second highest journal impact factor of the 165 journals in the category of Medicine, General & Internal (InCites JCR). Of the 688 documents authored by Dr. Fauci that are indexed in Web of Science, 10 of them were published in The Lancet.

**What that means:** This means that documents published in The Lancet in the most recent two years should receive on average 60.4 citations in the most recent year.

“The JIF was devised to measure the influence of journals but has been widely used to judge individual articles. This use is based on the specious assumption that all articles in a journal are equally influential, as reflected by their number of citations. This misuse can lead to weak articles being overvalued and important work being undervalued.”

Building a library of metrics ...

https://becker.wustl.edu/impact-assessment

http://www.rand.org/pubs/research_reports/RR1606.html

## Becker Medical Library Model for Assessment of Research Impact

### Advancement of Knowledge

<table>
<thead>
<tr>
<th>Books or Book Chapters</th>
<th>Book or book chapters generated by the research study is noted in a bibliography. Book is used as a textbook for higher education. Translations of the book. Book or book chapter cited in subsequent publications.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in Understanding and Awareness</td>
<td>Research study findings represent a paradigm shift in a field. Research study findings lead to change in understanding a problem.</td>
</tr>
<tr>
<td>Citations to Publications</td>
<td>Number of first generation citations. Number of second generation citations. Countries represented by citations. Institutions represented by citations. Languages represented by citations.</td>
</tr>
</tbody>
</table>

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*Helpful Frameworks for Research Impact*

[https://becker.wustl.edu/impact-assessment](https://becker.wustl.edu/impact-assessment)
100 Metrics to Assess and Communicate the Value of Biomedical Research

100 Metrics to Assess and Communicate the Value of Biomedical Research
An Ideas Book

http://www.rand.org/pubs/research_reports/RR1606.html

Research Impacts

<table>
<thead>
<tr>
<th>Metric</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of journal articles published</td>
<td>The number of peer-reviewed journal articles published over a particular timeframe is a quantitative metric of the volume of research produced by an individual or institution.</td>
</tr>
<tr>
<td>Number of citations</td>
<td>Measures of citations to published articles are used as a proxy for article quality. Can include Highly Cited Papers, Normalized Citation Score, etc.</td>
</tr>
<tr>
<td>Number of research output downloads</td>
<td>The number of times a research output has been downloaded gives an indication of how much it is being of use and the level of interest in it.</td>
</tr>
<tr>
<td>Mentions in Social Media</td>
<td>Information on who is citing the institution in social media can help identify where the influence of the medical school or teaching hospital is being felt across the sector, noting that this may be within academia.</td>
</tr>
</tbody>
</table>
A review of the characteristics of 108 author-level bibliometric indicators

Indicators of publication count

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>P (total publications)</td>
<td>Count of production used in formal communications</td>
</tr>
<tr>
<td>FA (first author counting)</td>
<td>Credit given to first author only</td>
</tr>
<tr>
<td>Co-authors</td>
<td>Indicates cooperation and growth of cooperation at inter- and national level</td>
</tr>
<tr>
<td>Noblesse Oblige (last author counting)</td>
<td>Indicates importance of the last author for the project behind the paper</td>
</tr>
</tbody>
</table>

In addition, academic institutions and other organizations have written their own responsible metrics statements. See: https://thebibliomagician.wordpress.com/statements-of-responsible-metrics-

The Declaration on Research Assessment (DORA) is an initiative to improve the ways in which researchers and the outputs of scholarly research are evaluated (2012).

The Metric Tide is an independent review of the role of metrics in research assessment (2015).

The Leiden Manifesto is a list of ten principles to guide research evaluation (2015).

In addition, academic institutions and other organizations have written their own responsible metrics statements. See: https://thebibliomagician.wordpress.com/statements-of-responsible-metrics-2/
Road map for enhancing Research Impact

- Update online presence
- Credit for your work
- Focus on open access
- Follow your colleagues
Improve your online presence: update online profiles

- Northwestern Scholars https://www.scholars.northwestern.edu/
- FSM Faculty Profiles http://www.feinberg.northwestern.edu/faculty-profiles/
- ORCID http://orcid.org/
- Scopus Author ID https://www.edited/scopus/kw/author+ID/
- Web of Science Researcher ID http://www.researcherid.com
- Google Scholar https://scholar.google.com/
- LinkedIn https://www.linkedin.com/
Sign up for an ORCID and/or connect your ORCID to Northwestern systems:

https://orcid.it.northwestern.edu

See our ORCID Guide:
https://libguides.galter.northwestern.edu/orcid

Note, in the future you may be asked to sign into ORCID through some Northwestern systems.
<table>
<thead>
<tr>
<th>Connect your ORCID ID</th>
<th>Link to Resource</th>
<th>Link to Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northwestern ORCID App **</td>
<td>Resource</td>
<td>Instructions</td>
</tr>
<tr>
<td>Northwestern Elements</td>
<td>Resource</td>
<td>Instructions</td>
</tr>
<tr>
<td>Scopus **</td>
<td>Resource</td>
<td>Instructions</td>
</tr>
<tr>
<td>Web of Science **</td>
<td>Resource</td>
<td>Instructions</td>
</tr>
<tr>
<td>Dimensions</td>
<td>Resource</td>
<td>Instructions</td>
</tr>
<tr>
<td>MLA International Bibliography</td>
<td>Log into ORCID</td>
<td>Instructions</td>
</tr>
<tr>
<td>CrossRef</td>
<td>Log into ORCID</td>
<td>Instructions</td>
</tr>
<tr>
<td>DataCite</td>
<td>Log into ORCID</td>
<td>Instructions</td>
</tr>
<tr>
<td>Zenodo</td>
<td>Log into Zenodo</td>
<td></td>
</tr>
<tr>
<td>Figshare</td>
<td>Resource</td>
<td>Instructions</td>
</tr>
<tr>
<td>Dryad</td>
<td>Resource</td>
<td>Instructions</td>
</tr>
<tr>
<td>ScholarOne</td>
<td>Log in during submission</td>
<td>Instructions</td>
</tr>
<tr>
<td>Editorial Manager</td>
<td>Log in during submission</td>
<td>Instructions</td>
</tr>
</tbody>
</table>
Use your ORCID ID

Tips for using your ORCID ID and record:

• Use your ORCID iD if prompted during manuscript submission and grant proposal submissions.
• Link your ORCID iD to (or include it in your profile for) other services, including ResearcherID, figshare, and your professional organizations.
• Include your ORCID iD on conference posters (generate a QR code, if you like, right from your ORCID record page), to direct people to your works.
• Consider including your ORCID iD on your webpage, in social media accounts, and in your email signature.
Consider Open Access with DigitalHub

DigitalHub
https://digitalhub.northwestern.edu/

- disseminate work to a larger audience
- provide a citable link and easy access to your work
- store your research in a central searchable database
- ensure long-term preservation of your work

DigitalHub is an online repository for the scholarly output and research data of Feinberg School of Medicine
What can you upload to DigitalHub?

- research papers
- case reports
- technical reports
- figures
- images
- guidelines
- datasets
- summary statistics
- books
- newsletters
- user guides
- conference papers
- abstracts
- presentations
- educational materials
- workshop resources

and so much more...

Content in DigitalHub

The content should be scholarly, educational, or related to the university’s mission.

The content should be in its final form. DigitalHub is intended to be an archive, not a storehouse for works in progress.

The content needs to be in a digital format.

The content should not contain personal health information or other sensitive information.

Questions? Contact digitalhub@northwestern.edu
What about copyright?

Who is the copyright owner?
The person or entity holding the copyright for unpublished materials is often the author; for published materials most authors have transferred their copyright to journal or book publishers.

You can check publisher’s open access policies using Sherpa Romeo:
https://v2.sherpa.ac.uk/romeo/

You can check publisher’s open data policies using OAD:
http://oad.simmons.edu/oadwiki/Journal_open-data_policies

Copyright Basics Guide:
https://libguides.northwestern.edu/copyrightbasics

Copyright owners retain copyright over materials uploaded to DigitalHub

What is a creative commons license?
All content uploaded to DigitalHub should be made available with a license; the license tells others how your content can be used.

Use the license chooser to determine the best Creative Commons License for your work:
https://creativecommons.org/choose/
Open Access Resources at Northwestern

Guide on Northwestern Support for OA Publishing
• https://libguides.galter.northwestern.edu/oapublishing/support

Northwestern OA Fund
• https://www.library.northwestern.edu/research/scholarly/open-access-fund.html

Wiley Hybrid Journal Agreement
• Wiley Journal Recommender System: https://journalfinderwiley.com/search?type=match

Directory of Open Access Journals
• http://www.doaj.org/
Curate your work: Set up alerts for your work

• Curate from Latin curare meaning “take care”
• Keep your profiles updated
• Set up alerts in:
  • Scopus
  • Web of Science
  • Google Scholar
  • Google
Useful Tools and Resources
Audience Choice for Demonstration

Metrics Toolkit
• Description: an online evidence-based resource for navigating the research metrics landscape
• Available at: https://www.metrics-toolkit.org/

ImpactStory
• Description: an aggregator of alternative metrics that focuses on building personal profiles to illustrate research impact.
• Available at: https://profiles.impactstory.org/search

Grow Kudos
• Description: an online tool to increase readership through lay summaries and track readership and views
• Available at: https://www.growkudos.com/

Altmetric Bookmarklet
Description: an aggregator of alternative metrics that focuses on individual articles and provides an overall score
Available at: https://www.altmetric.com/products/free-tools/bookmarklet/

Scite Browser Extension
• Description: a browser extension that shows how a research article is supported, contrasted, or mentioned
• Available at: https://scite.ai/extension-install

Author and Citation Alerts in:
• Scopus
• Web of Science
Metrics Toolkit

Available at: https://www.metrics-toolkit.org/

HELPING YOU NAVIGATE THE RESEARCH METRICS LANDSCAPE

The Metrics Toolkit is a resource for researchers and evaluators that provides guidance for demonstrating and evaluating claims of research impact. With the Toolkit you can quickly understand what a metric means, how it is calculated, and if it's a good match for your impact question.
Check out: Blog mentions
Available at: https://www.metrics-toolkit.org/metrics/blog_mentions/

<table>
<thead>
<tr>
<th>Field</th>
<th>Field Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Blog Mentions</td>
</tr>
<tr>
<td>Can Apply To</td>
<td>Primarily articles, books, and other scholarly items with persistent identifiers, such as a DOI, PubMed ID, or Handle</td>
</tr>
<tr>
<td>Metric Definition</td>
<td>The number of times a scholarly output has been linked to from a blog.</td>
</tr>
<tr>
<td>Metric Calculation</td>
<td>Blog mentions are comprised of raw counts of links to outputs, from blogs. Some services track links only for items with a persistent identifier.</td>
</tr>
<tr>
<td>Data Sources</td>
<td>Links from both scholarly and general interest blogs are tracked, though coverage varies between altmetrics services.</td>
</tr>
<tr>
<td>Appropriate Use Cases</td>
<td>Discussions on blogs have been found to have a slight correlation to later citations. They are not a sure-fire indicator for later citations. Use blog mentions only to learn what other researchers or members of the public are saying about a piece of research. The number of blog mentions is less important than what is being said.</td>
</tr>
<tr>
<td>Limitations</td>
<td>Given their unwieldy nature, it is risky to assume that a link to a piece of research from any blog—even a scholarly one—constitutes quality criticism.</td>
</tr>
<tr>
<td>Inappropriate Use Cases</td>
<td>Blog mentions should not be interpreted as a direct measure of quality or impact, even amongst researcher blog networks.</td>
</tr>
<tr>
<td>Available Metric Sources</td>
<td>Altmetric, PlumX, Impactstory Profiles, CrossRef Event Data (for items with DOIs, on Wordpress.com-hosted blogs)</td>
</tr>
<tr>
<td>Transparency</td>
<td>In all altmetrics services in which blog mentions are available, one can access the full-text of the blog mentions, making this a relatively transparent metric. However, no altmetrics service makes their full-list of blogs tracked available.</td>
</tr>
<tr>
<td>Website</td>
<td>n/a</td>
</tr>
<tr>
<td>Timeframe</td>
<td>Altmetric began tracking blog mentions in October 2011 (meaning Impactstory Profiles coverage spans this time frame, as well). PlumX does not share information on its coverage dates for blog mentions.</td>
</tr>
</tbody>
</table>

Updated on 10 Aug 2020
Metrics Toolkit

Quiz Questions

1. What are three sources where you can find the h-index?
2. What metric is considered the most appropriate means of comparison between journal articles or groups of journal articles because it is field normalized and is less prone skew from outliers, such as a few highly cited publications?
3. What metric primarily applies to software and code?
4. Which metric is a field-normalized indicator of influence, used by the NIH for evaluating the relative merits of biomedical research articles?
5. Other than Google Data, what is another possible location for finding counts of data citations?
6. Article Citations are a measure of:
   a) research quality
   b) influence amongst other scholars
   c) positive reputation for a researcher
   d) comparison between papers
Impactstory

Available at: https://profiles.impactstory.org/search
- **All Readers Welcome**: reading level of abstracts and titles
- **Big in Japan**: Work has been saved or shared by someone in Japan
- **Global Reach**: Number of countries to research has been saved and shared in
- **Global South**: percent of people from the Global South who save and share research (including Brazil, Ukraine, China, etc.).
- **Greatest Hit**: top publication based on saves and shares
- **Open Access**: percent of research free to read online
- **Open Hero**: every paper is free to read online
- **Open License**: percent of research with a CC-BY, CC0, or public domain license
- **Wikitastic**: Research is mentioned in Wikipedia articles
Impactstory (continued)

Check out some profiles:

- Megan O’Donnell: https://profiles.impactstory.org/u/0000-0002-4632-6642
- Pedro Silva: https://profiles.impactstory.org/u/0000-0001-9316-9275
- Heather Piwowar: https://profiles.impactstory.org/u/0000-0003-1613-5981
- Stacy Konkiel: https://profiles.impactstory.org/u/0000-0002-0546-8257
- Robert Terry: https://profiles.impactstory.org/u/0000-0003-3849-7705

Search more profiles here: https://profiles.impactstory.org/search
Kudos

Available at: https://www.growkudos.com/
Check out the Kudos Research Showcase:
https://www.growkudos.com/showcase/

Some examples to review:
• https://www.growkudos.com/publications/10.1073/pnas.2213418120/reader
• https://www.growkudos.com/publications/10.1017/fs1355770x2000056x/reader
Kudos (continued)

Compelling Evidence: New Tools and Methods for Aligning Collections with the Research Mission
Joelten Pastow, Bart Davis, Karen Gutzman, Ramune Kubilius, Aaron Sorensen
The Serials Librarian, January 2020, Taylor & Francis
DOI: 10.1080/0361526x.2020.1701393

Share
Select a channel to share your work on:
- Link
- Twitter
- LinkedIn
- Facebook
- Weibo
- WeChat

Share a link
Create a trackable link that you can share online or offline - for example, by email in a presentation, poster or handout on a website, blog, or via social media. You can give your shares a label (not publicly visible) to help you compare results.

Your trackable link is:
https://link.growkudos.com?1podqg831hc

Copy Link | Share by email

Publication metrics
Number of shares: 7
Clicks on shares*: 49
Views on Kudos: 123
Clicks on Read Publication button: 7
Altmetric score**: 4
Crossref Citations***: 1
View citations on Google Scholar
Altmetric Bookmarklet

1. Add bookmarklet to your bookmarks toolbar
2. Visit any paper
3. Get article level metrics with a single click

Available at: https://www.altmetric.com/products/free-tools/bookmarklet/
Altmetric Bookmarklet (continued)
Altmetric Bookmarklet (continued)

The Colors of the Donut
- Policy documents
- News
- Blogs
- Twitter
- Post-publication peer-reviews
- Research highlight platform
- Q&A (Stack Overflow)
- YouTube
- Pinterest
- Patents

The Scoring of Sources

<table>
<thead>
<tr>
<th>Source</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>News</td>
<td>8</td>
</tr>
<tr>
<td>Blog</td>
<td>5</td>
</tr>
<tr>
<td>Policy document (per source)</td>
<td>3</td>
</tr>
<tr>
<td>Patent</td>
<td>3</td>
</tr>
<tr>
<td>Wikipedia</td>
<td>3</td>
</tr>
<tr>
<td>Peer review (Publons, Pubpeer)</td>
<td>1</td>
</tr>
<tr>
<td>Weibo (not trackable since 2015, but historical data kept)</td>
<td>1</td>
</tr>
<tr>
<td>Google+ (not trackable since 2019, but historical data kept)</td>
<td>1</td>
</tr>
<tr>
<td>F1000</td>
<td>1</td>
</tr>
<tr>
<td>Syllabi (Open Syllabus)</td>
<td>1</td>
</tr>
<tr>
<td>LinkedIn (not trackable since 2014, but historical data kept)</td>
<td>0.5</td>
</tr>
<tr>
<td>Twitter (tweets and retweets)</td>
<td>0.25</td>
</tr>
<tr>
<td>Facebook (only a curated list of public Pages)</td>
<td>0.25</td>
</tr>
<tr>
<td>Reddit</td>
<td>0.25</td>
</tr>
<tr>
<td>Pinterest (not trackable since 2013, but historical data kept)</td>
<td>0.25</td>
</tr>
<tr>
<td>Q&amp;A (Stack Exchan)</td>
<td>0.25</td>
</tr>
<tr>
<td>Youtube</td>
<td>0.25</td>
</tr>
<tr>
<td>Number of Mendeley readers</td>
<td>0</td>
</tr>
<tr>
<td>Number of Dimensions and Web of Science citations</td>
<td>0</td>
</tr>
</tbody>
</table>

Example of a Altmetric Donut & Attention Score:
Check out some Altmetric Attention Scores:

- [https://doi.org/10.1038/s41562-020-0884-z](https://doi.org/10.1038/s41562-020-0884-z)
- [https://doi.org/10.1542/peds.2020-016824](https://doi.org/10.1542/peds.2020-016824)
- [https://doi.org/10.1016/j.ekir.2020.09.015](https://doi.org/10.1016/j.ekir.2020.09.015)
- [https://doi.org/10.1098/rsif.2020.0686](https://doi.org/10.1098/rsif.2020.0686)
Getting to Scopus, Web of Science and PubMed

Galter Health Sciences Library & Learning Center: www.galter.northwestern.edu

To learn more about accessing resources at Galter Library visit the Online Resource Access page on the Library Services FAQs libguide.
Web of Science Author and Citation Alerts
- Web of Science

How to add a Citation Alert

Add Alerts to Your List
When you add citation alerts, you receive emails when someone cites articles you selected. You can also use this feature to keep a list of your favorite articles.

To add an article:

1. Search one of our Web of Science citation databases (e.g., Web of Science Core Collection).
2. When you’re viewing a full record, click **Create Citation Alert** (Note: not all full records have the Create Citation Alert button; for more information, read our help article).
3. Click the **Citation Alerts** link from the top of any **Web of Science** page to view your alerts list.

How to create an Alert

Add Searches to Your List
When you save searches to this list, you can set alerts to receive emails with the latest documents found from your search query.

You can also access your saved searches from any computer at the institution and run saved searches from the **Web of Science** homepage.

To save a search:

1. Click **Create Alert** on the left side of the search results page.
2. Give your search a name, and if you want, add a description. **Email Alerts** is automatically selected, but if you don’t want alerts, just uncheck it.
3. Click **Save** to add the search to your list.
Scopus Author and Citation Alerts
Scopus Metrics

2479 Citations

Citation Impact

PlumX Metrics

Usage

Total: 2092
Clinical: 8

Citations

99th percentile

Field-Weighted Citation Impact

Citation benchmarking

PlumX Metrics

Captures

Readers: 1874

Citations

Usage

Social Media

Twitter: 1

Mentions

Blog Mentions: 2

PlumX Metrics

Captures

Share: 6

Mentions

LinkedIn: 1

Social Media

Twitter Mentions: 1
Scite Browser Extension

Available at: https://scite.ai/extension-install
Scite Browser Extension (continued)

Things to know:

• Citations are classified by a deep learning model that is trained to identify three categories of citation statements: those that provide contrasting or supporting evidence for the cited work, and others, which mention the cited study without providing evidence for its validity.
• Citations that simply use the same method, reagent, or software are not classified as supporting.
• Cited by counts come from full-text article indexed through publisher agreements. Often lower than expected!
Scite Browser Extension (continued)

Review some examples of Scite Browser Extension:


Note In interpreting citation statements - the **black bold text** is the metadata of the citing publication. The **blue text** is the citation to the cited publication.

Scite Question/Answer Mode:

- Sample Questions:
  - What are myths about antibiotic resistance?
  - What are the biggest sources of air pollution?
  - Do strengthening interventions increase strength in people who are suffering the effects of acute and chronic stroke?
  - Is the Mapleson C circuit more effective than the Laerdal circuit in removing secretions and improving ventilation and gas exchange during manual hyperinflation?
VosViewer

• VOSviewer is a software tool for constructing and visualizing bibliometric networks. These networks may for instance include journals, researchers, or individual publications, and they can be constructed based on citation, bibliographic coupling, co-citation, or co-authorship relations. VOSviewer also offers text mining functionality that can be used to construct and visualize co-occurrence networks of important terms extracted from a body of scientific literature.

• Download at: https://www.vosviewer.com/
A quick search and export in Scopus for the subject area of Pediatrics (applied at the journal-level) and Northwestern affiliation, limit to final publications, articles, reviews, and 2010-2019:

- SUBJTERMS (2735) AND (AF-ID ("Northwestern University" 60007363) OR AF-ID ("Northwestern University Feinberg School of Medicine" 60013227) OR AF-ID ("Rehabilitation Institute of Chicago" 60001590) OR AF-ID ("McGaw Medical Center of Northwestern University" 60006203) OR AF-ID ("Ann & Robert H. Lurie Children’s Hospital of Chicago" 60017031)) AND (LIMIT-TO (PUBSTAGE, "final") AND (LIMIT-TO (DOCTYPE, "ar") OR LIMIT-TO (DOCTYPE, "re")) AND (LIMIT-TO (PUBYEAR, 2019) OR LIMIT-TO (PUBYEAR, 2018) OR LIMIT-TO (PUBYEAR, 2017) OR LIMIT-TO (PUBYEAR, 2016) OR LIMIT-TO (PUBYEAR, 2015) OR LIMIT-TO (PUBYEAR, 2014) OR LIMIT-TO (PUBYEAR, 2013) OR LIMIT-TO (PUBYEAR, 2012) OR LIMIT-TO (PUBYEAR, 2011) OR LIMIT-TO (PUBYEAR, 2010))

- In VosViewer, consider creating a term co-occurrence map using the overlay visualization with scores by average publication to view topical trends over time.
See video here:
https://www.youtube.com/watch?v=KQdlSbTacok
Acknowledgements:

The following people are instrumental in developing research impact and dissemination materials and training, and from whose guidance we have greatly benefited.

**Kristi Holmes**  
Galter Health Sciences Library & Learning Center, Northwestern University

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Becker Medical Library, Washington University in St. Louis

**Patty Smith**  
Previously at Galter Library, Northwestern University, now at Altmetric.com

**Amy Suiter**  
Becker Medical Library, Washington University in St. Louis

**Annette Mendoza**  
Previously at Galter Library, Northwestern University, now at Lurie Children’s Hospital
Thank You
What is the purpose of research evaluation?

**Advocacy**

Making the case for research

**Analysis**

Understanding what works

**Accountability**

...to taxpayers and donors

**Allocation**

Rewarding impact

Example of Program or Project Evaluation

**Inputs**

What resources are being used?

Inputs include funding, staff, key partners, knowledge and expertise, policies, infrastructure, etc.

Input indicators include reports on budgets, requisition orders, curriculum vitae, reference letters.

**Activities**

What activities do we do with these resources?

Activities may include meetings, presentations, conducting research, etc.

Activity indicators may include who and where the activities took place and what were the goals of the activities.

**Outputs**

What outputs are produced?

Outputs may include publications, presentations, policy documents, white papers, datasets, etc.

Output indicators may describe the quality and quantity of outputs, and any context necessary.

**Immediate Outcomes**

What outcomes do they create?

Outcomes are immediate effects and should include real world changes the outputs may produce.

Outcome indicators may include the number of people and nature of the benefits, changes in perception or experiences, etc.

**Long-term Outcomes**

What long-term outcomes are realized

Long-term outcomes are often similar to mission statements and are rarely attributable to one person, program, or project.

**Impact Indicators**
Bibliometric Websites

- Altmetrics

• New way to measure engagement with research outputs
• Data that explain both the volume and nature of attention research has received online
• Provides evidence of engagement with diverse audiences and potential impact

• Can measure how many people have shared or engaged with a scholarly output online (Twitter, news outlets, Wikipedia citations, post-publication peer review, citations in policy documents)
• Complementary to bibliometrics (citation-based)
Bibliometric Websites
- Altmetrics

Real time information
Reach new audiences
Track various kinds of output