Northumbria Research Link

Northumbria University
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University Library

Researcher profiles and metrics that matter

June 8, 2017

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Talking to researchers about metrics

Chris Belter, NIH Library

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My opinions don't reflect anyone else's

My participation isn't an endorsement of anything

1. Acknowledge the elephant

2. Admit that metrics aren't perfect

3. Point out that peer review isn't, either

4. Bring data

NIH Library
Office of Research Services
Serving the NIH Community
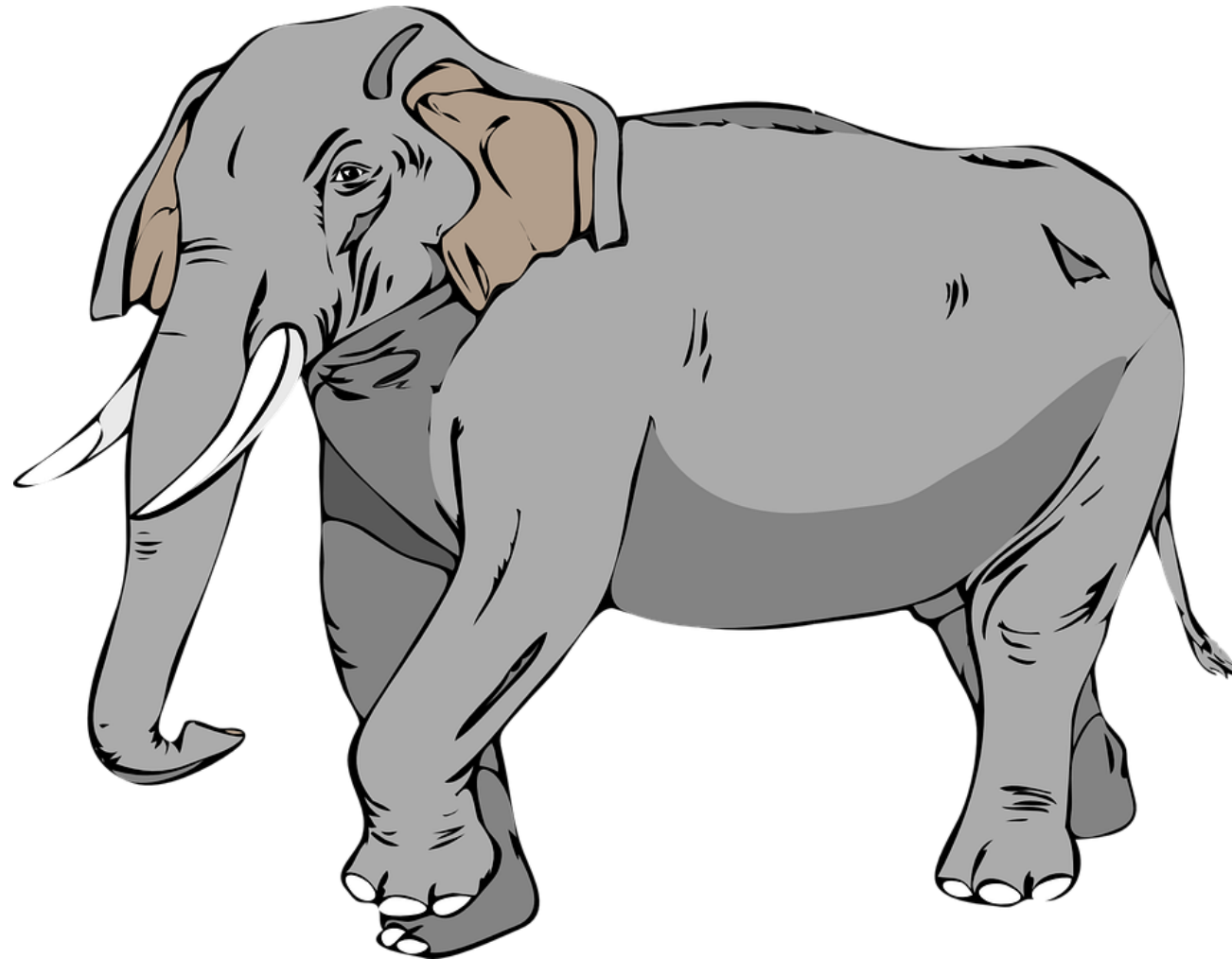
Assumption	Reality
• Citations measure impact	• It's complicated
• Citations are objective	• It's complicated
• Higher is better	• It's complicated
• Citations are what count	• It's complicated

You provide a CV / application → Reviewer looks at your CV → Reviewer (hopefully) reads some papers ↓

Reviewer makes a decision ← A miracle occurs

- Conscious or unconscious bias

- Inconsistent or conflicting results

- Time- and resource-limited

NIH Library
Office of Research Services
Serving the NIH Community

Pros	Cons
Handles large data sets	Requires expertise to generate and interpret
Produces reproducible results	Only measures publications
Impact according to a large sample	Limited measure of impact
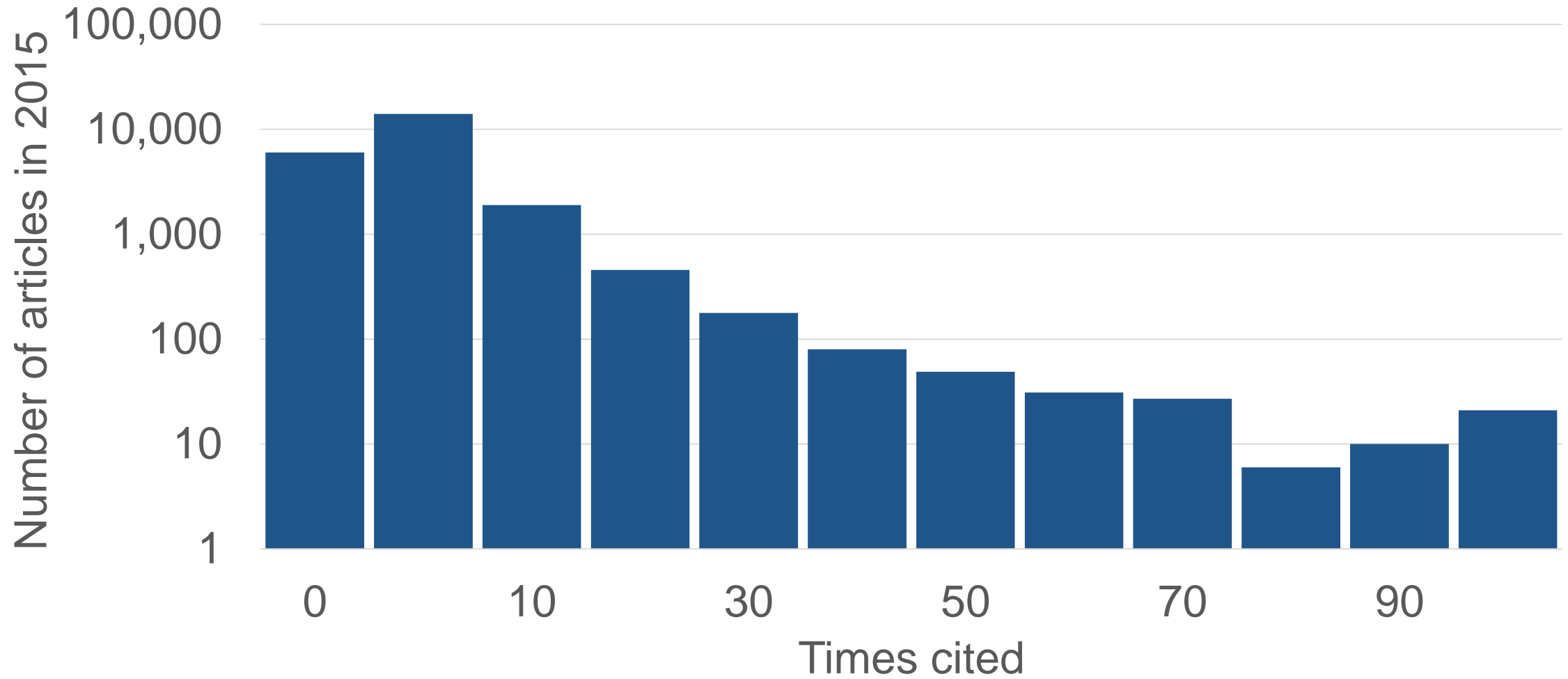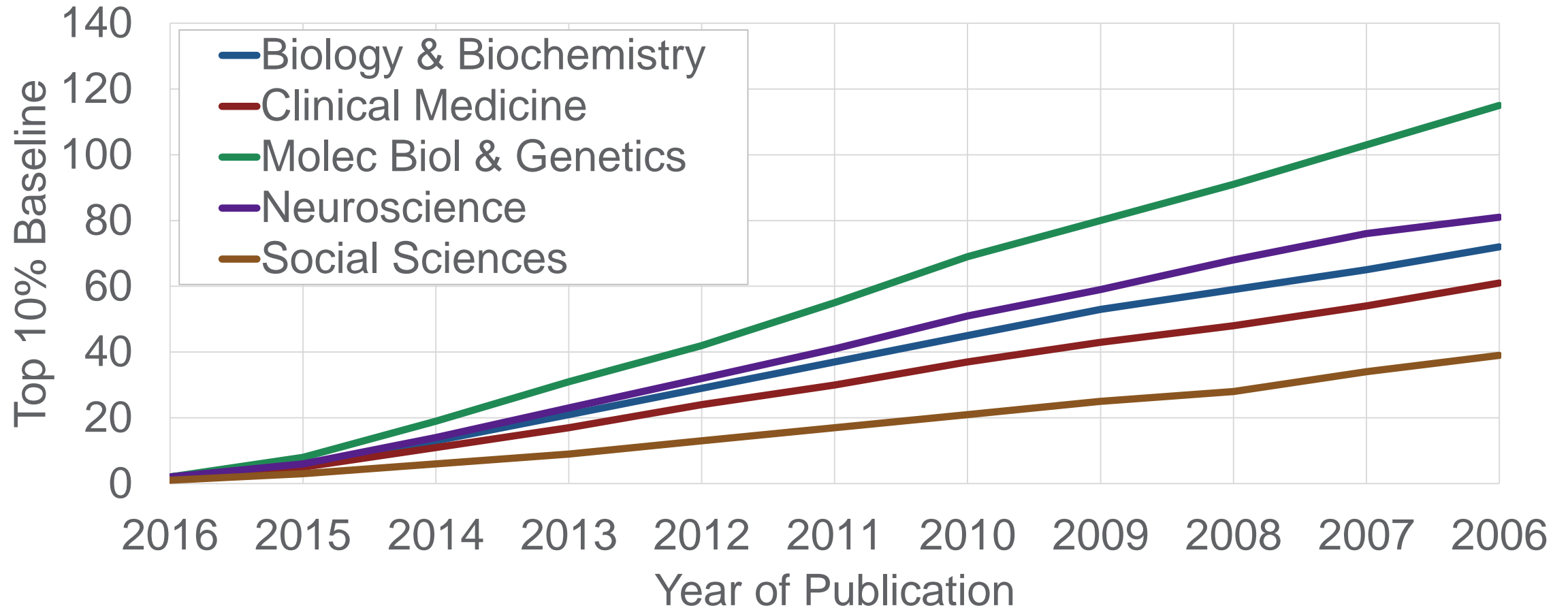
1. Acknowledge the elephant

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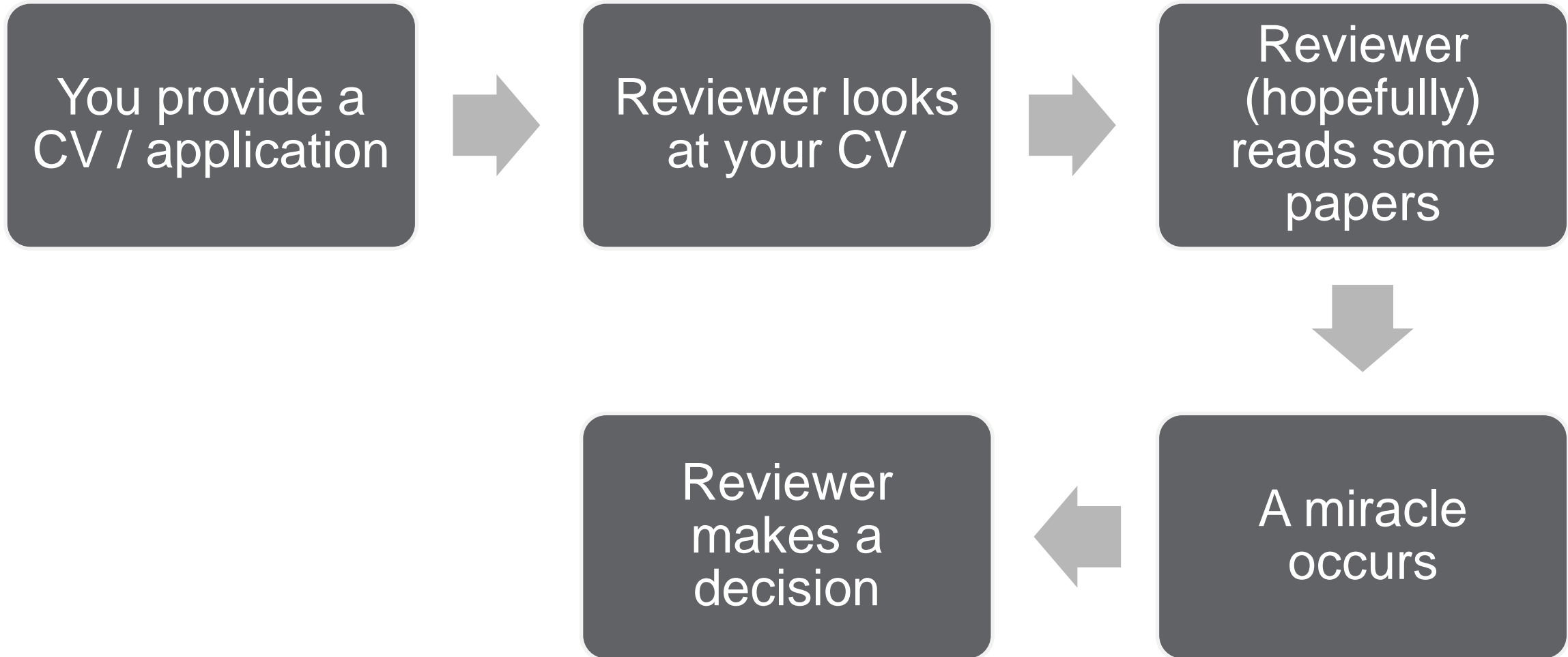3. Point out that peer review isn't, either

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Research Intelligence

Researcher Profiles and Metrics that Matter

Andrea Michalek

Vice President of Research Metrics, Product Management
and Managing Director of Plum Analytics, Elsevier
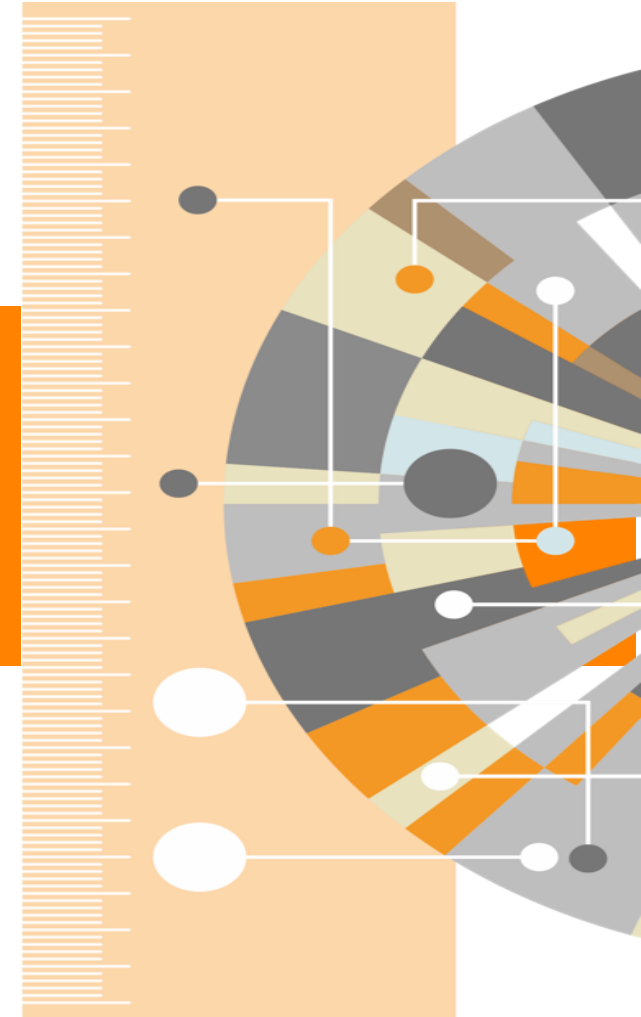
June 8, 2017

Empowering Knowledge

Research Metrics Can Be Used to…
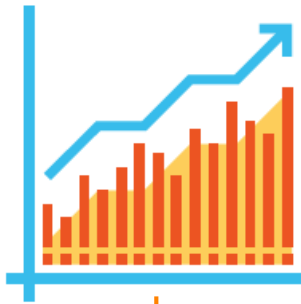
Analyze the strengths of research at the institution

Determine where research is a good potential investment

Demonstrate ROI (Return On Investment) of research money

Identify rising stars amongst the early career researchers

Tell a better narrative about everything that is happening with research

Different Researchers Have Different Needs for Metrics

Research Metrics Throughout the Research Process

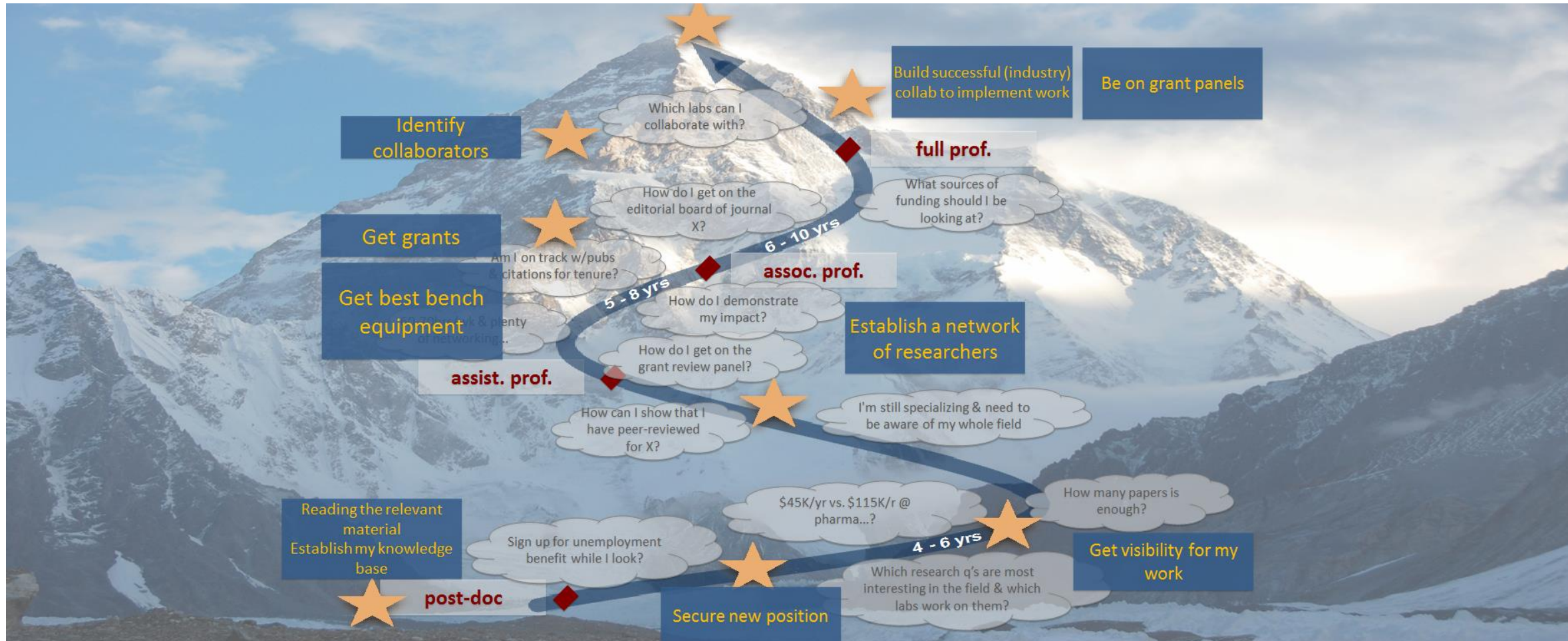# Examples of Metrics

Researcher Level

- Document Count
- h-Index

Article Level

- Citation Count
- Citations per paper
- Field-Weighted Citation Impact (FWCI)
- Outputs in top quartile
- Citations in policy and medical guidelines
- Usage
- Captures, e.g. bookmarking
- Mentions
- Social media

Journal Level

- CiteScore
- Journal Impact Factor
- Scimago Journal Rank (SJR)
- Source Normalized Impact Per Paper (SNIP)

Users in Different Countries Select Different Metrics

Metric	World	Australia	Canada	China	Germany	Japan	United Kingdom	United States
Field-Weighted Citation Impact	1	1	1	3	2	4	3	1
Outputs in Top Percentiles	2	2	3	1	4	1	1	6
Publications in Top Journal Percentiles	3	4	2	2	6	2	2	5
Collaboration	4	6	6	5	1	3	5	7
Citations per Publication	5	3	7	6	3	5	4	3
Citation Count	6	5	5	4	8	6	6	2
h-indices	7	7	4	8	7	7	7	4

Usage of metrics available in SciVal's Benchmarking module from 11 March 2014 to 28 June 2015.
A partial list of the metrics available at that time is shown, focusing on the most frequently-used. Scholarly Output it excluded since this is the default.
Note that recently added metrics based on e.g. media mentions and awards data were not available at this time and so are not represented in this analysis.

Types of Research Output

Metrics timeline:
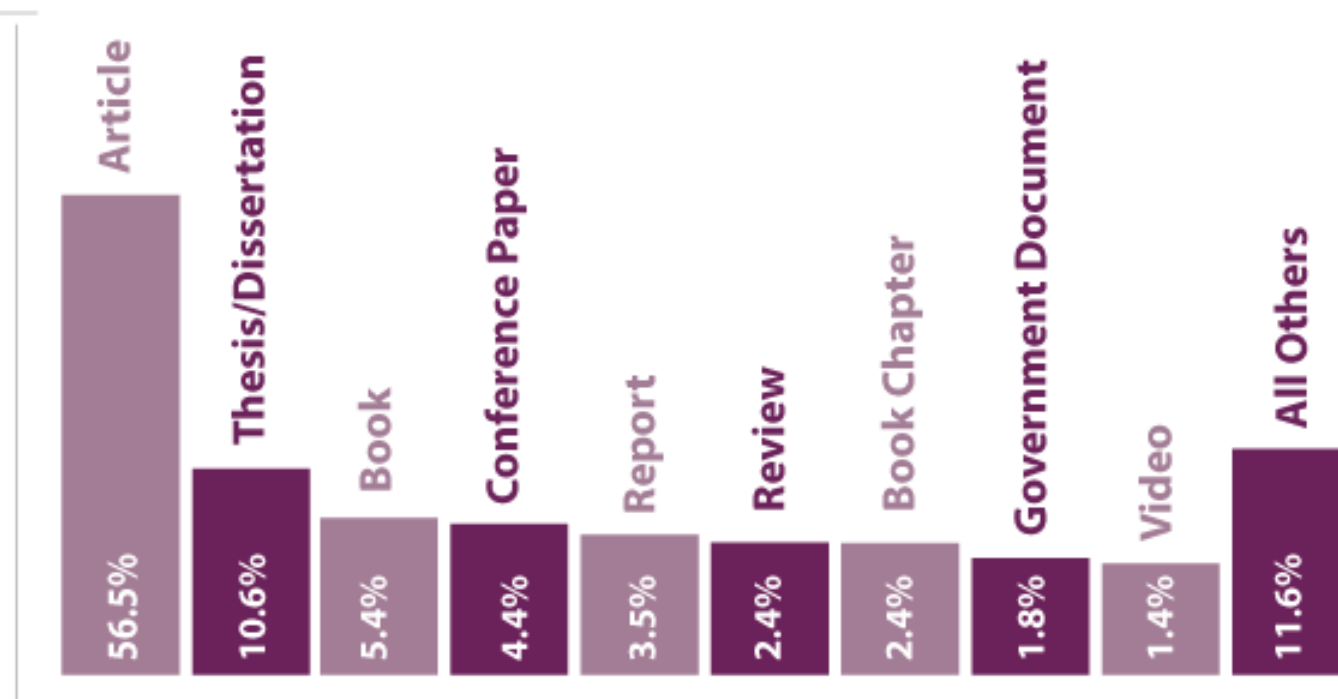# From Idea to Impact

Old Paradigm

New Paradigm

Idea

? years

Blog Post

Grant

2-5 years

Conference

Publication

Video

3-5 years

Citation

From idea to measurable citation counts can take 5 - 10 years

Due to the pace of scholarly publishing, it takes another 3 - 5 years from the time the work is published to get to critical mass of citation counts

It can take at least 2 - 5 years from idea to a published peer-reviewed journal article

Metrics available immediately

click

tweet

presentation view

dataset download

PDF download

bookmark

save reference

video play

share

citation counts

citation counts

ELSEVIER

Sources of Metrics

ACI	Facebook	SciElo
Amazon	figshare	Scopus
Airiti	Github	SlideShare
bepress	Goodreads	SourceForge
bit.ly	Google+	SSRN
CABI	Mendeley	Stack Exchange
CrossRef	NICE (UK)	Twitter
Delicious	OJS Journals	USPTO
Dryad	PLOS	Vimeo
dSpace	PubMed	Wikipedia
DynaMed Plus	PubMed Central	Worldcat
EBSCO	Reddit	(OCLC)
ePrints	RePEc	YouTube

Categorizing Metrics for Analysis

USAGE
(clicks, downloads, views,
library holdings, video plays)

CAPTURES
(bookmarks, code forks, favorites,
readers, watchers)

MENTIONS
(blog posts, comments, reviews,
Wikipedia links)

SOCIAL MEDIA
(+1s, likes, shares, tweets)

CITATIONS
(citation indexes, patents,
clinical, policy)

How Do You Measure Research Output

USAGE	CAPTURES	MENTIONS	SOCIAL MEDIA	CITATIONS
MOST IMPORTANT METRIC AFTER CITATION*	LEADING INDICATOR OF CITATIONS	WHERE THE STORIES OF RESEARCH ARE FOUND	INDICATES HOW RESEARCH IS PROMOTED	TRADITIONAL MEASURE OF IMPACT
17.3M	**457.9M**	**17.6M**	**4.7%**	**6.9X**
Number of PlumX artifacts with Usage	Total number of Capture Interactions across PlumX	Total number of Wikipedia Mentions across PlumX	Percentage of PlumX artifacts on Social Media	Number of times articles are cited more than books

Captures are a way for a researcher to **save work** for later

Captures can be a **LEADING INDICATOR** for citations

- Following
- Bookmarking
- Favoriting
- Putting in reference management software

21.7% Percentage of artifacts with Campus

Expanding Metrics:
Measuring Policy and Clinical Citations

- Basic research is cited three to five times more than clinical research

- Early-career researchers are opting out of studying translational medicine

- When output is cited in a policy document or a clinical guideline → New metrics can help the researcher tell their story

Citations
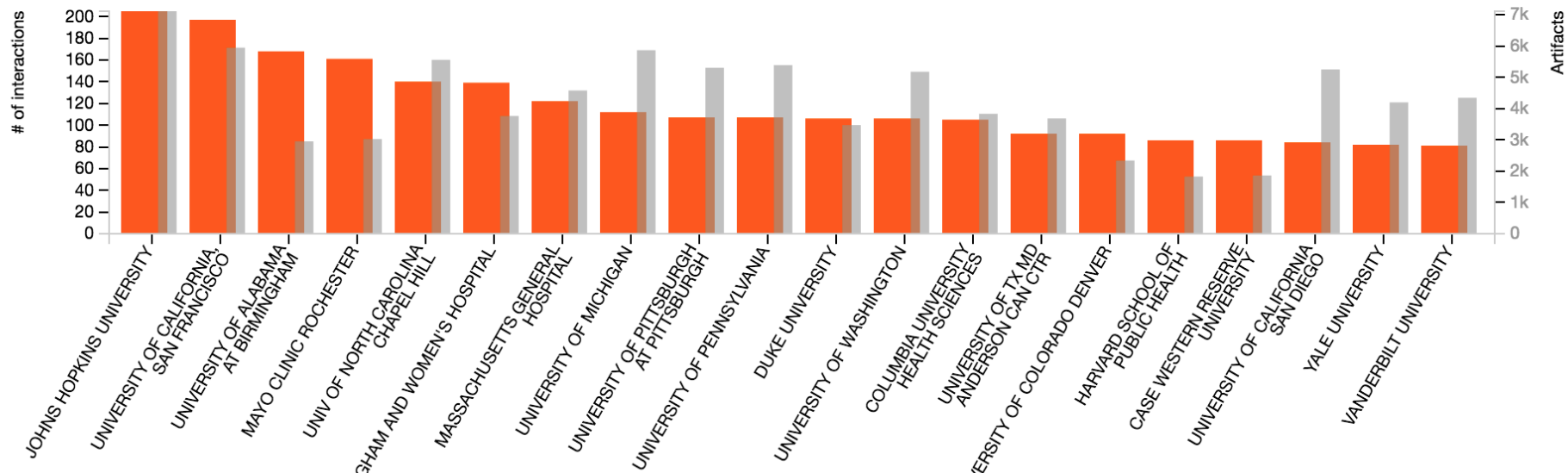
Golden Rules for Using Research Metrics

Use both **qualitative** and **quantitative** input into your decisions

This is about benefitting from the strengths of both approaches, not about replacing one with the other

Combining both approaches will get you closer to the whole story

Valuable intelligence is available from the points where these approaches differ in their message

Use **more than one** research metric as the quantitative input

A research metric's strengths can complement the weaknesses of others

There are lots of different ways of being excellent

Using multiple metrics drives desirable changes in behaviour

Responsible Metrics

- **Robustness**: basing metrics on the **best possible data** in terms of accuracy and scope
- **Humility**: recognizing that quantitative evaluation should support – but not supplant – **qualitative**, **expert** assessment
- **Transparency**: keeping data **collection** and analytical processes open and transparent, so that those being evaluated can test and verify the results
- **Diversity**: accounting for **variation** by field, and using a variety of indicators to support diversity across the research system
- **Reflexivity**: recognizing **systemic** and potential effects of indicators and updating them in response

http://www.hefce.ac.uk/pubs/rereports/year/2015/metrictide/

Mechanisms for Gathering Metrics is Important

From the NISO Code of Conduct for altmetrics

Describe all known limitations of the data.

Describe how data are aggregated.

Detail how often data are updated.

Provide a clear definition of each metric.

Research Intelligence

Thank you

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ORCID implementation at Northumbria University

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@NULibrary

www.facebook.com/northumbriaunilibrary

northumbria
UNIVERSITY
University Library

CUSTOMER SERVICE EXCELLENCE

CSE

- Northumbria University is a research-rich, business focused University in Newcastle-upon-Tyne

- Three campuses: two in Newcastle, one in London

- 27,167 students

- 3200 employees / 1385 academic staff

- Comprehensive subject coverage over four faculties
  - Faculty of Engineering & Environment
  - Faculty of Health & Life Sciences
  - Faculty of Arts, Design & Social Sciences
  - Faculty of Business & Law

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CUSTOMER SERVICE EXCELLENCE
CSE

UNIVERSITY LIBRARY

Scholarly Publications

A team (one librarian, two FTE library assistants) providing a central support service for academic staff and postgraduate research students.

- Research Excellence Framework
- Bibliometrics
- Research Data Management
- Publications module of Pure
- Open Access
  - Institutional OA fund
  - Institutional repository
  - Compliance with Higher Education Funding Council England and Research Councils UK OA policies
  - Northumbria Journals

ORCID in 2013

- Adding ORCID to an existing programme of research training and research events
- Soft promotion: email signatures, flyers and posters
- Adding a secondary identifier to the institutional repository
- Gaining endorsement from senior research committees

@NULibrary
www.facebook.com/northumbriaunilibrary

northumbria
U N I V E R S I T Y
University Library

CUSTOMER SERVICE EXCELLENCE
CSE

Jisc-ARMA ORCID pilot projects

"The aim of the pilot project is to streamline
the ORCID implementation process at universities and to develop
the best value approach for a potential UK wide adoption of
ORCID in higher education."

https://orcidpilot.jiscinvolve.org/wp/

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CSE

"Embedding ORCID across researcher career paths"

- New centralised, online research process for postgraduate research students

- Optional submission of ORCID to HESA (Higher Education Statistics Agency) annual return for students

- An opportunity to integrate ORCID at most useful point for individual and institution

UNIVERSITY**LIBRARY**
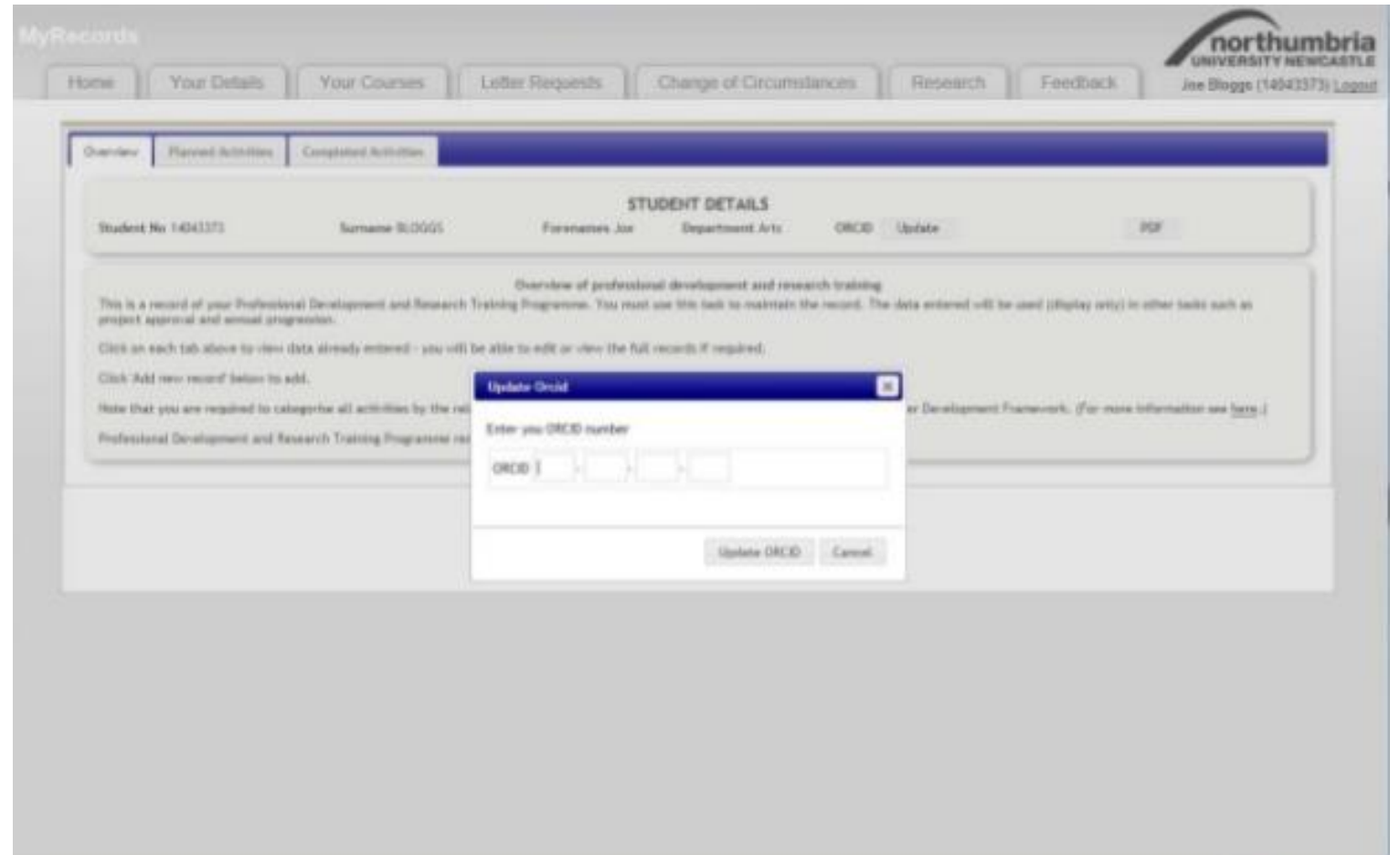
ORCID in 2017

- Established as part of the postgraduate researcher workflow

- About to roll out for staff using Pure

- Well embedded in skills training for staff and students
  - Library's Researcher Development Week training sessions
  - Online guidance for publishing
  - Research and Innovation Services and Graduate School training

- Important part of Scholarly Publications processes

UNIVERSITY**LIBRARY**

Research metrics

- Regular reporting to senior faculty staff and committees, focusing on benchmarking against other institutions and collaboration

- ORCID assists with accurate identification of Northumbria authors

22 suggested authors

can be imported into SciVal after refinement or by dragging the most prominent profile to the left.

? Learn more

Author	Publications ↓
Bell, Mary	
Foster, Sarah	
Zaytsev, Andrey	
Wood, Michael	
Daniels, Mark	
Cook, Paul	
Graham, Pamela	
White, Alan	
Murray, Jane	
Hill, Michael	

122 authors not found

and will not be imported into SciVal.

? Learn more

Author ↑
Agius Ferrante, Charmaine
Al-Omari, Basem
Anderson-Handa, Arlene
Ardron, Kevin
Ashforth, Beth
Bamborough, Gill
Barker, Lucy
Batuev, Mikhail
Benton, Paula
Bertram, Mark

- Embed information about ORCID wherever its relevant

- Maintain a central point of contact and support

- Technical integration not necessarily required

- …but definitely has advantages for accurate and timely capture

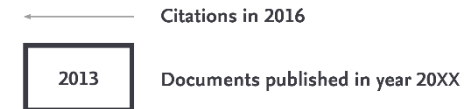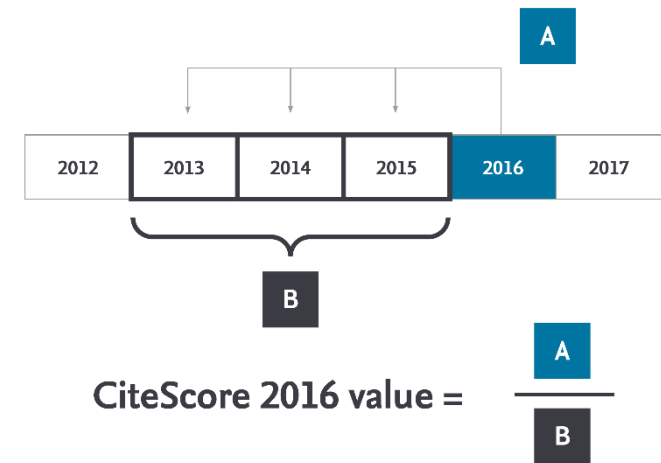- Emphasise the benefit to the individual not the institution

CiteScore metrics 2016

It's time for a new standard of journal citation impact.
Don't Speculate. Validate.

| 2012 | 2013 | 2014 | 2015 | **2016** | 2017 |

A

B

CiteScore 2016 value = $\dfrac{A}{B}$

⟵ Citations in 2016

| 2013 | Documents published in year 20XX

Comprehensive

Based on Scopus, the world's largest abstract and citation database

CiteScore metrics are available for **22,618 serial titles on Scopus:** journals, book series, conference proceedings and trade publications

Transparent

CiteScore metrics are available for **free**

CiteScore metrics are **easy to calculate for yourself**

The **underlying database is available** for you to interrogate

Current

CiteScore Tracker is **updated monthly**

New titles will have CiteScore metrics the year after they are indexed by Scopus

Thank You & Questions

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