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Perspectives on aligning incentives for Open Science

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Background and Disclosures

- Employed by PLOS (2015 – present)
- Previously employed by Nature Publishing Group (2004 – 2015)
- ORCID, Board of Directors Chair (2017 – present)
- CRediT taxonomy (2014 – present)
- SF DORA, Steering Committee member (2017 – 2019)
- Keystone Symposia, Board of Directors (2019 – present)

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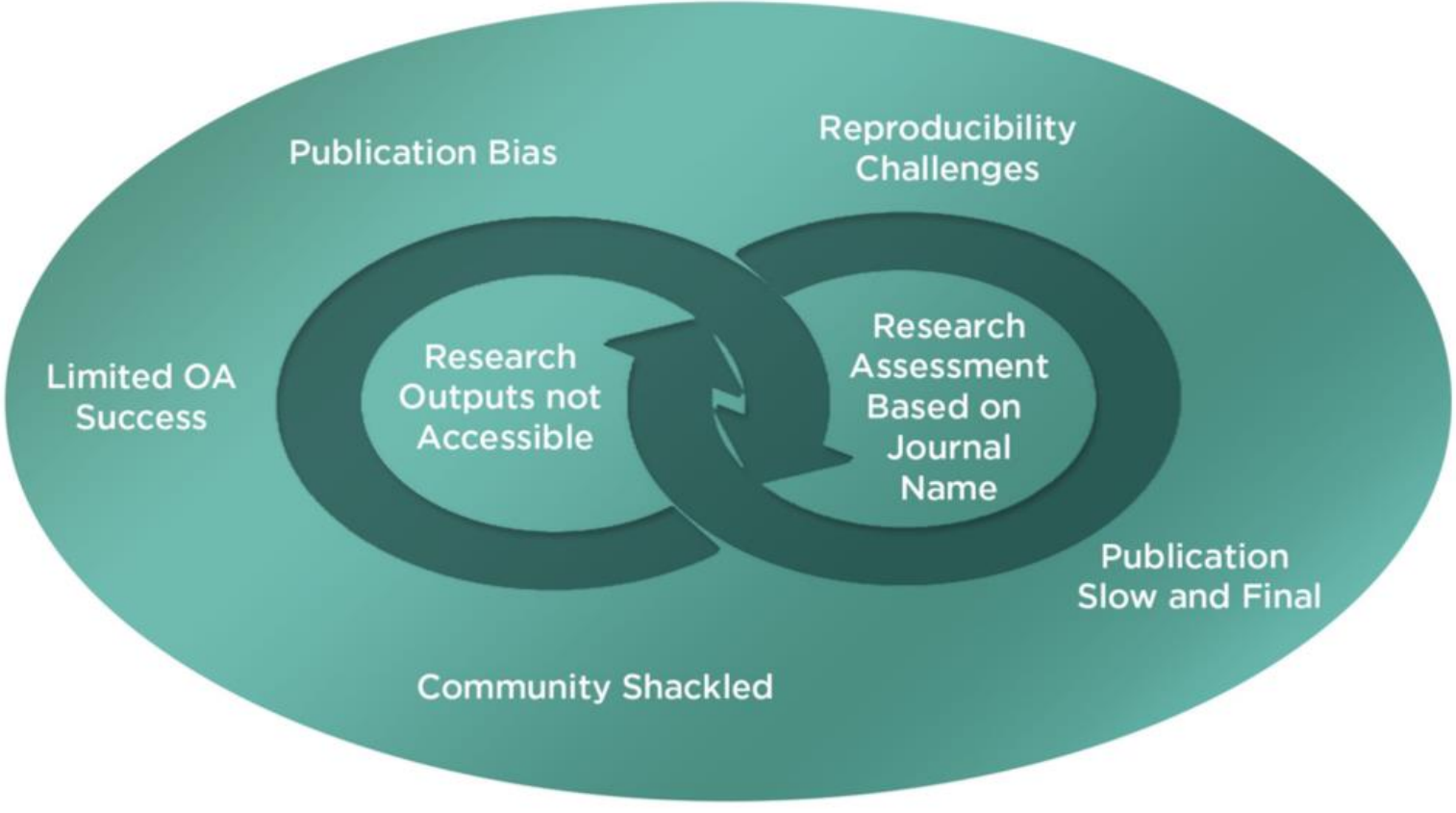
The twin problems of access and assessment



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Article-level metrics

2009
PLOS starts development of ALM software

2011
Altmetric (part of Digital Science since 2012)

2012
Plum Analytics (acquired by Elsevier in 2017

2018
Crossref and Datacite extend the PLOS code to provide open solution

In 2019, what proportion of hiring, tenure & promotion committees give more weight to ALMs than journals impact factors?

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Open Science in practice at PLOS

Access policies	• Data must be accessible at the time of publication
Facilitation	• Partnerships with data repositories, lab protocols repositories, executable code
Adapted publishing concepts	• Journals with inclusive criteria • Registered Reports workflow
Transparent process	• Preprints deposition partnership with bioRxiv • Publish peer review history

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PLOS data availability policy

PLOS journals require authors to make all data underlying the findings described in their manuscript fully available without restriction at the time of publication.

When specific legal or ethical requirements prohibit public sharing of a dataset, authors must indicate how researchers may obtain access to the data.

March 2014

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PLOS data availability policy

"In sum, given two large multidisciplinary open access journals with similar editorial structure and publication cost, authors appear to be favoring the one with the ***higher Impact Factor****,* ***faster publication time****, and* ***more lenient data availability policies****."*

-- Phil Davis

Scholarly Kitchen, 23 Aug 2016

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PLOS data availability policy

>120,000 articles

published with

Data Availability Statements

- 25% with data in public repositories
- Supplementary information in figshare

Implementation costs:

- Pre-publication checks
- Maintain list of appropriate repositories
- Guidance to authors
- Post-publication follow-ups

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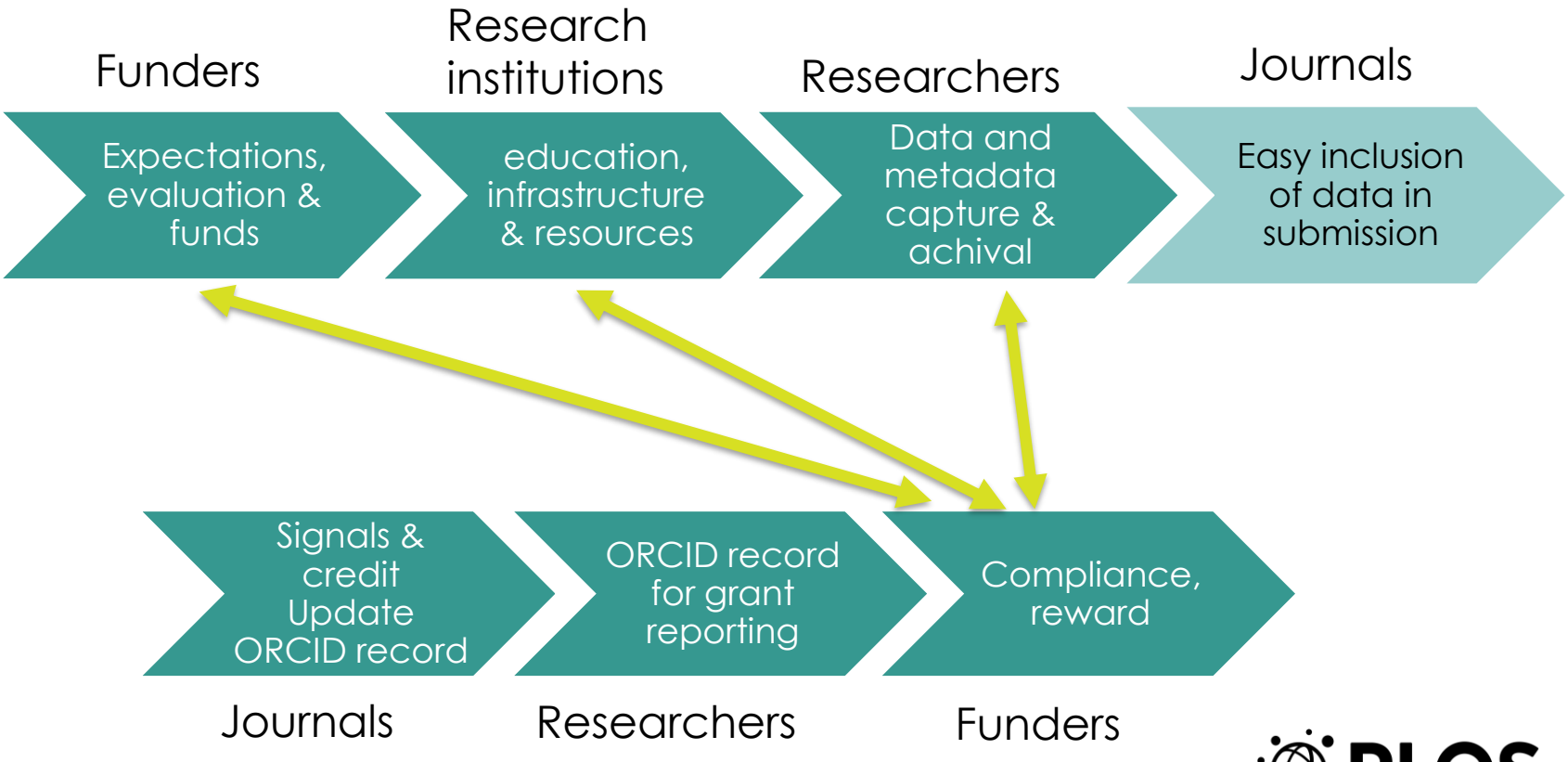
Vision: an open data workflow



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Reward

Facilitate 

Research institutions

- Change practices of hiring, tenure and promotion committees:
  - Statement of support for Open Science
  - Specifically reward Open Science practices
  - Fight engrained biases

- Provide support for open science practices
  - Education and guidance
  - Infrastructure and core facilities
  - Avoid conflicts with other institutional practices (e.g., tech transfer)

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Funders

- Align requirements
  - Set **expectations** in grant application process
  - Evaluate Open Science plans
  - Check previous compliance and behaviors

- Make it **easy** for researchers **to practice** Open Science
  - Support infrastructures
- Make it **easy to report** Open Science practices:
  - ORBIT project by funders and ORCID to reduce reporting burden

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Conclusions

- Some publishers are pro-active in promoting Open Science practices.
- The competitive landscape for publishers is not yet conducive to promoting Open Science.
- Funders and research institutions can shift the incentives for researchers and publishers through rewarding and facilitating Open Science practices.

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Thank you for listening!

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