

UK scholarly journals: An evidence-based report



J K Aronson



The vision I have for the Web ...
provides us with new freedom, and
allows us to grow faster than we
ever could when we were fettered
by the hierarchical classification
systems into which we bound
ourselves.

Tim Berners-Lee, *Weaving the Web* (1999)



John Smith

Main Entrance

John Smith

STANDSTILL

Money won't buy happiness ...

... but it will pay the salaries
of a large research staff to
study the problem

Report statistics

104 pages

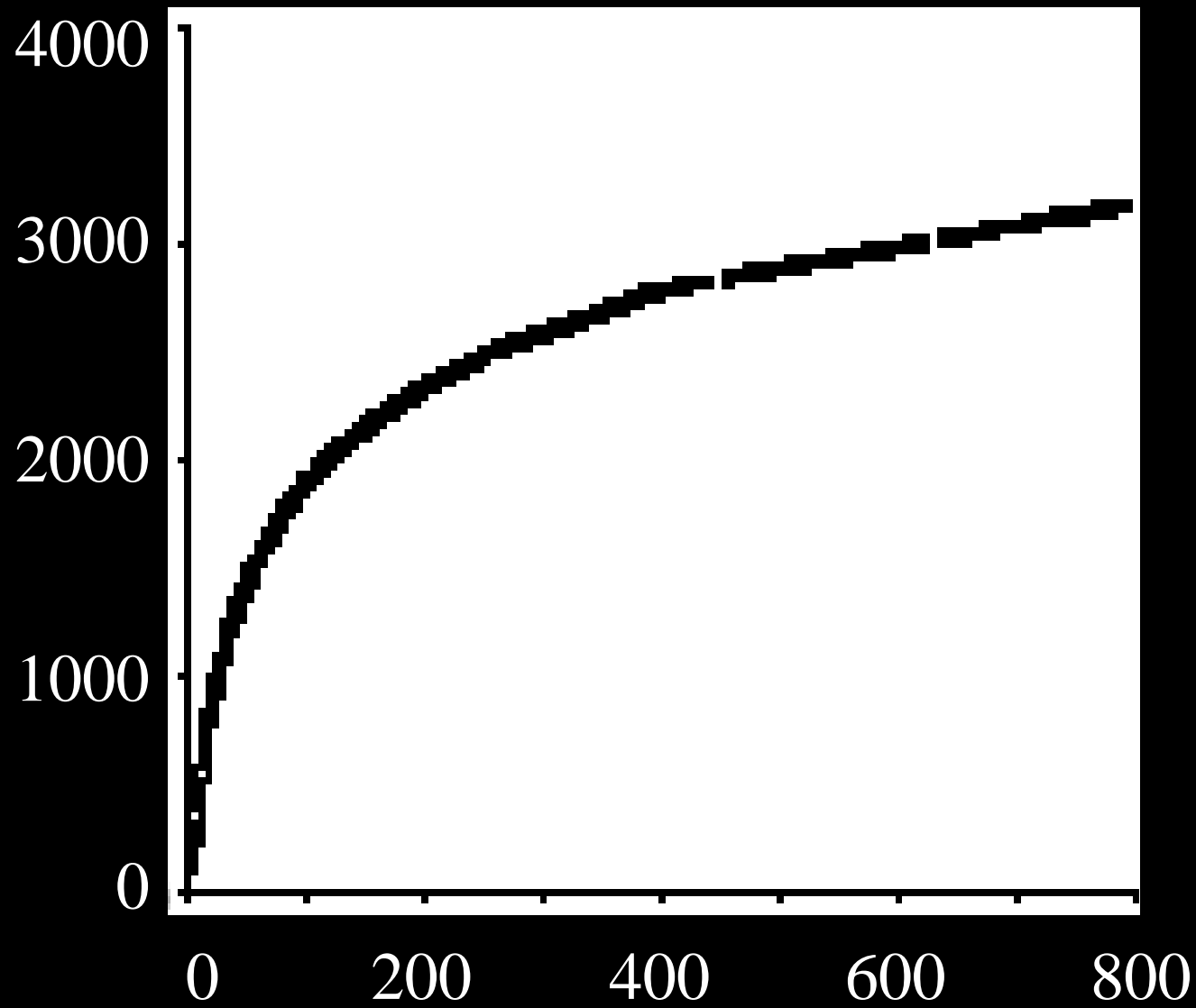
93 references

134 footnotes

23 tables

2 appendices—134 pages

Cumulative number of citations



Number of journals

BMC Med Res Methodol. 2001; 1: 7.

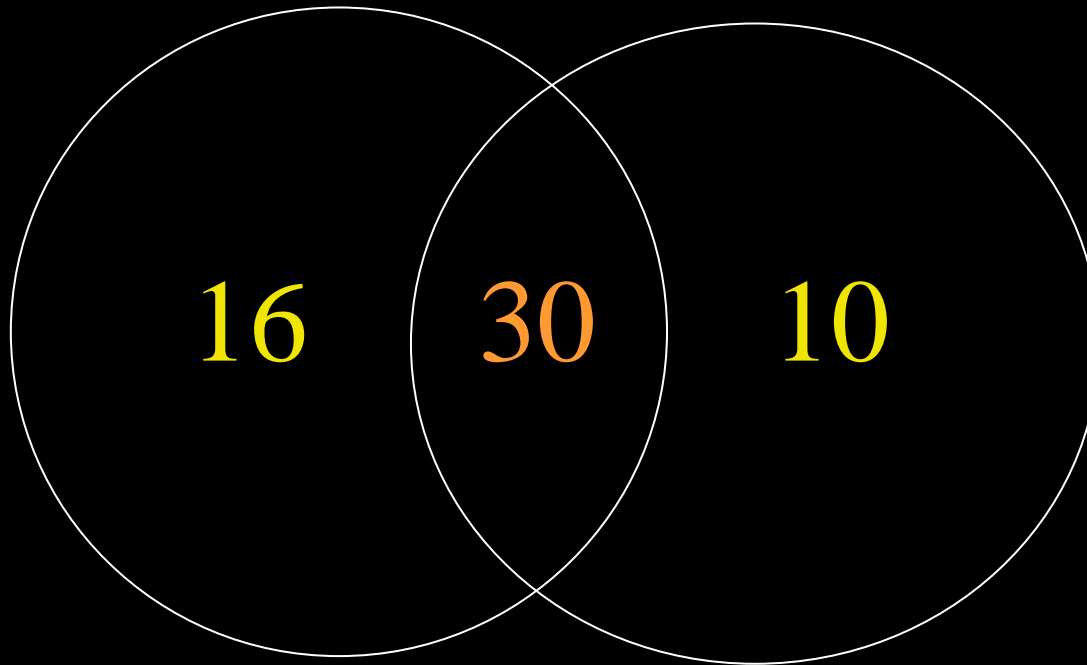
Published online 2001 September 3.

Incomplete evidence: the inadequacy of databases in tracing published adverse drug reactions in clinical trials

Sheena Derry , Yoon Kong Loke , and Jeffrey K Aronson 

Department of Clinical Pharmacology, University of Oxford, Radcliffe Infirmary, Oxford, OX2 6HE, United Kingdom

81 papers



MedLine

Both

EMBASE

Neither

Journal market volume and value

25,000 journals world wide

60% published online

10% “open access”

200,000 full-time researchers in UK

5.5 million world wide

Journal market volume and value

Pubmed 5000 journals

14 million citations

4 million searches per year

Journal market volume and value

£94.5 million spent on serial
subscriptions by UK universities in
2003-4

\$5 billion worldwide publishers'
revenues

Academic 30-40%

Corporate 20-30%

Journal market volume and value

- Buyers
- Size of the market
- Breakdown within the market
- Trends
- Total value

Journal supply-side economics

- Costs of researchers' contributions
 - o authors
 - o editors
 - o reviewers
- Costs of launching new journals
- University presses
- Segmentation of costs

Journal usage

- Extent of use of articles
- How articles are used
- Whether the type of access makes a difference

Citations and impact factors

- Inconsistent evidence using different methods
- Effects of different models
- How metrics are used for decision making by funding agencies
- The effect of collaborative research (self-citation)

Disciplinary differences

- Journal usage
- Citation patterns
- Comparisons with other modes of communication

Alternative dissemination models

- Effects on economics of publication
 - author pays
 - mixed models
 - repositories
- Effects on quality of publications

The evidence hierarchy

Level	Type of evidence
1 ⁺⁺	High quality systematic reviews of RCTs, or RCTs with a very low risk of bias
1 ⁺	Well-conducted systematic reviews of RCTs, or RCTs with a low risk of bias
1 ⁻	Systematic reviews of RCTs, or RCTs with a high risk of bias
2 ⁺⁺	High-quality systematic reviews of case-control or cohort studies. High quality case-control or cohort studies with a very low risk of confounding, bias, or chance
2 ⁺	Well-conducted case-control or cohort studies with a low risk of confounding, bias, or chance
2 ⁻	Case-control or cohort studies with a low risk of confounding, bias, or chance
3	Non-analytical studies (case reports, case series)
4	Expert opinion, formal consensus

Research Article

Citation Advantage of Open Access Articles

Gunther Eysenbach

Centre for Global eHealth Innovation, University Health Network; and Department of Health Policy, Management and Evaluation, University of Toronto, Toronto, Ontario, Canada

Design

1492 original research articles in PNAS

212 (14.2%) were author-pays articles

Citation data at 0-6 months

4-10 months

10-16 months

Results

Time (days)	<u>Non-cited</u>		OR
	Author-pays	Non-author-pays	
206	78 (37%)	627 (49%)	1.3
288	11 (5.2%)	172 (14%)	2.6

Time (days)	<u>Cited</u>		OR
	Author-pays	Non-author-pays	
206	134 (63%)	653 (51%)	1.2
288	201 (95%)	1108 (87%)	1.1

Problems

Non-randomized

Potential confounding by self-selection of author-pays articles

First authors were more senior in the author-pays group

Authors had more lifetime average citations per paper in the author-pays group



The Effect of Digoxin on Mortality and Morbidity in Patients with Heart Failure

The Digitalis Investigation Group

- Patients with left ventricular ejection fractions of 0.45 or less
- Randomly assigned to digoxin (n=3397) or placebo (n=3403)
- Mortality was unaffected:
 - 1181 deaths (34.8 percent) with digoxin
 - 1194 deaths (35.1 percent) with placebo (RR = 0.99; 95% CI = 0.91–1.07)

A proposed study

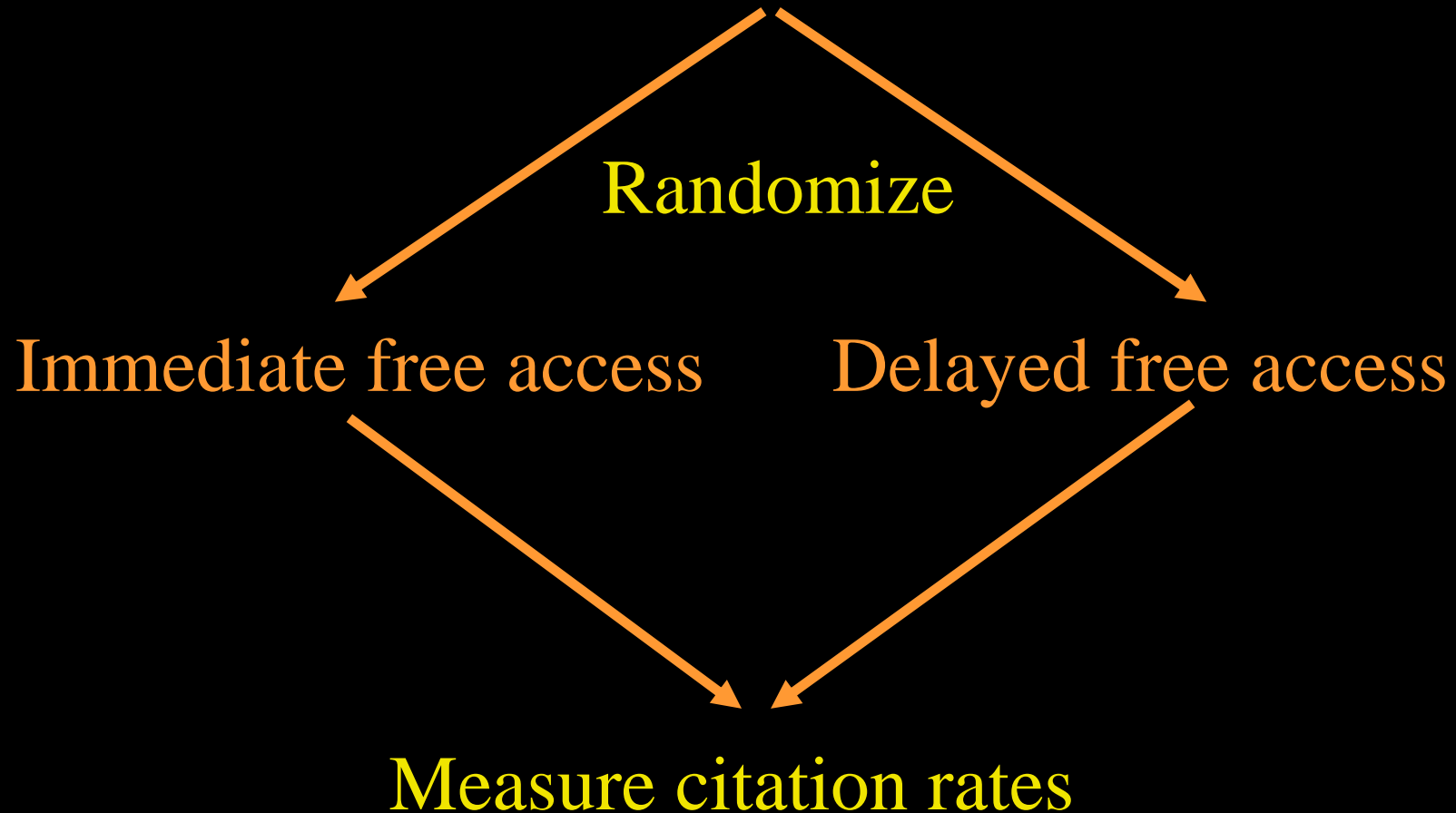
Delayed access journal

Randomize

Immediate free access

Delayed free access

Measure citation rates



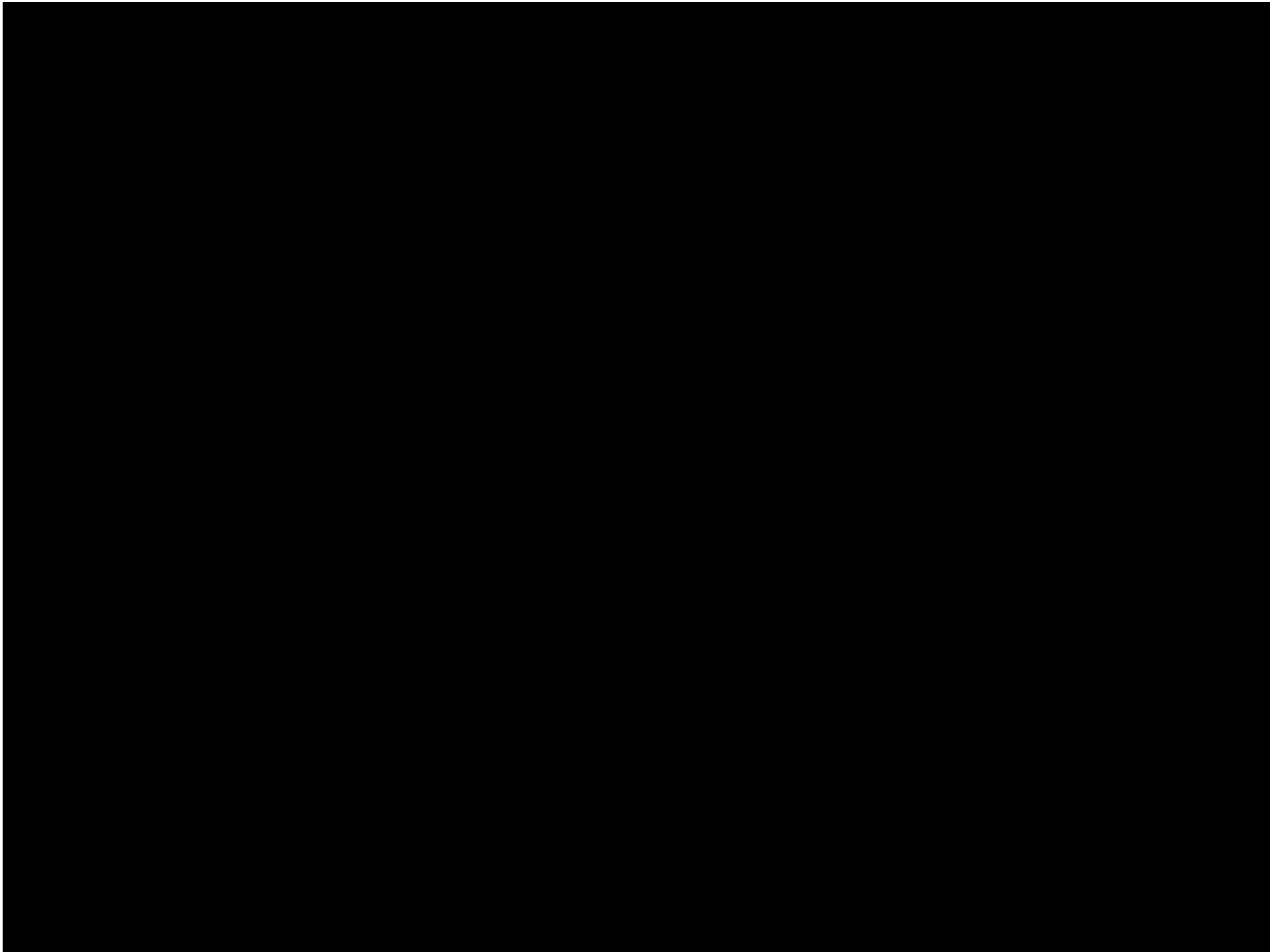
Conclusions

“OA articles are more immediately recognized and cited by peers than non-OA articles published in the same journal.”

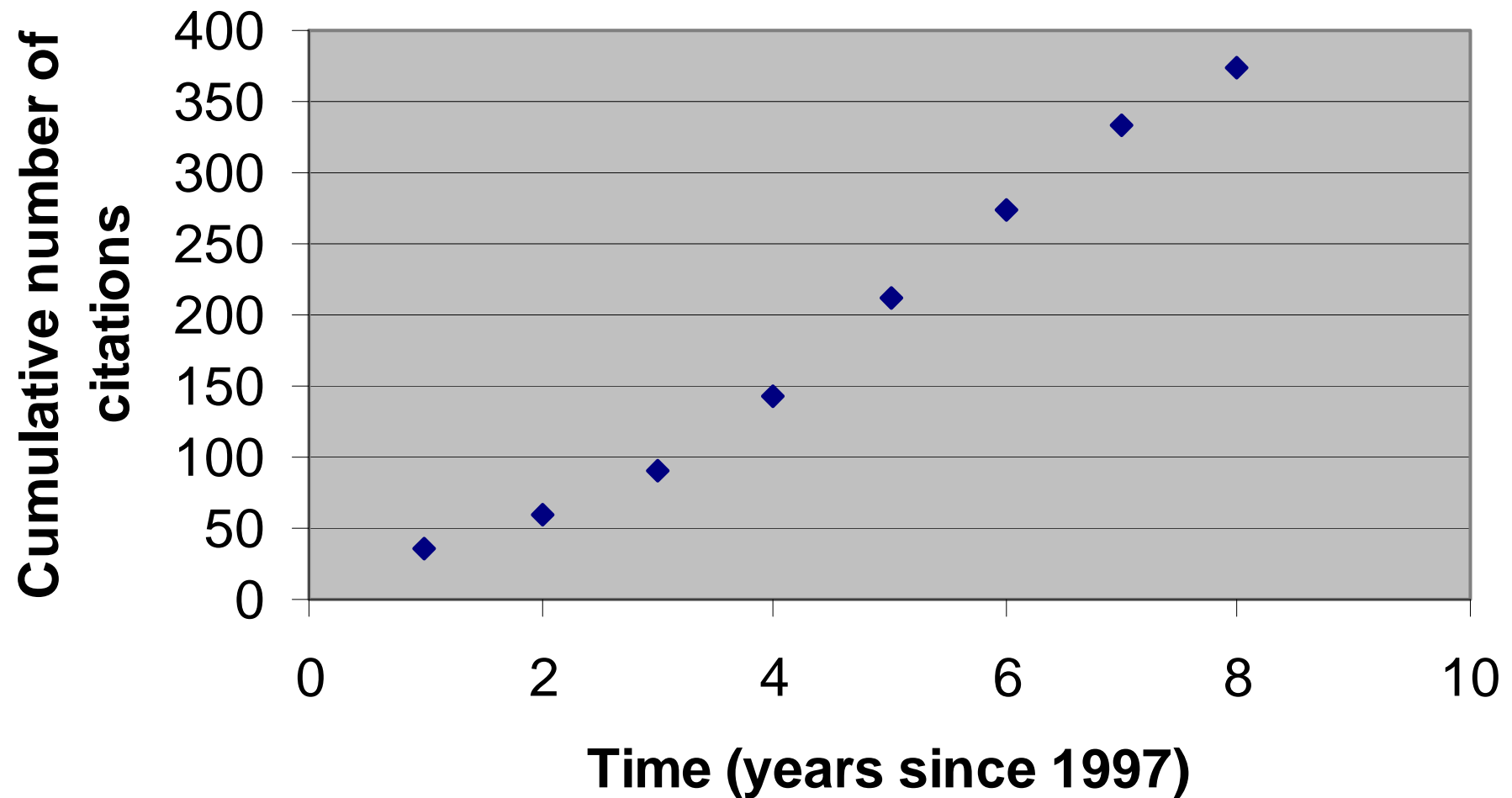
“OA is likely to benefit science by accelerating dissemination and uptake of research findings.”

To ensure stability, and complex system needs a damping mechanism to introduce delay, to prevent it from oscillating too wildly.

Tim Berners-Lee, Weaving the Web (1999)



Wakefield et al., Lancet 1998; 351: 637-41



Kerr, Wyllie, & Currie, Br J Cancer 1972; 26: 239-57

