

Open access: a funder's perspective

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The Wellcome Trust

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<http://www.wellcome.ac.uk/openaccess>

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One of the world's largest medical research charities

Expenditure in 2003/04 of c £378 million

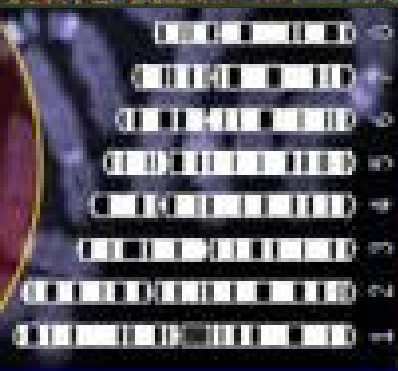
Supports more than
5,000 researchers
at 400 locations in
42 different countries



Funding major initiatives in
public engagement with science
and SciArt projects

The UK's leading supporter of research
into the History of Medicine

Finished Human Genome Project



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15 February 2001

Nature

ISSN 0950-0804 PUBLISHED WEEKLY

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the human genome

- Nuclear fission**
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Display

Summary

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All: 1189

Review: 83



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of 60 [Next](#) 1: [Mechelli A, Friston KJ, Frackowiak RS, Price CJ.](#)[Related Articles, Links](#)

Structural covariance in the human cortex.

J Neurosci. 2005 Sep 7;25(36):8303-10.

PMID: 16148238 [PubMed - in process]

 2: [Doherty JR, Rao A, Mesulam MM, Nobre AC.](#)[Related Articles, Links](#)

Synergistic effect of combined temporal and spatial expectations on visual attention.

J Neurosci. 2005 Sep 7;25(36):8259-66.

PMID: 16148233 [PubMed - in process]

 3: [Sargent PB, Saviane C, Nielsen TA, DiGregorio DA, Silver RA.](#)[Related Articles, Links](#)

Rapid vesicular release, quantal variability, and spillover contribute to the precision and reliability of transmission at a glomerular synapse.

J Neurosci. 2005 Sep 7;25(36):8173-87.

PMID: 16148225 [PubMed - in process]

 4: [Haworth KE, Healy C, Sharpe PT.](#)[Related Articles, Links](#)

Characterisation of the genomic structure of chick Fgf8.

DNA Seq. 2005 Jun;16(3):180-6.

PMID: 16147873 [PubMed - in process]

 5: [Zeki S.](#)[Related Articles, Links](#)

The Ferrier Lecture 1995 behind the seen: the functional specialization of the brain in space and time.

Philos Trans R Soc Lond B Biol Sci. 2005 Jun 29;360(1458):1145-83.

PMID: 16147515 [PubMed - in process]

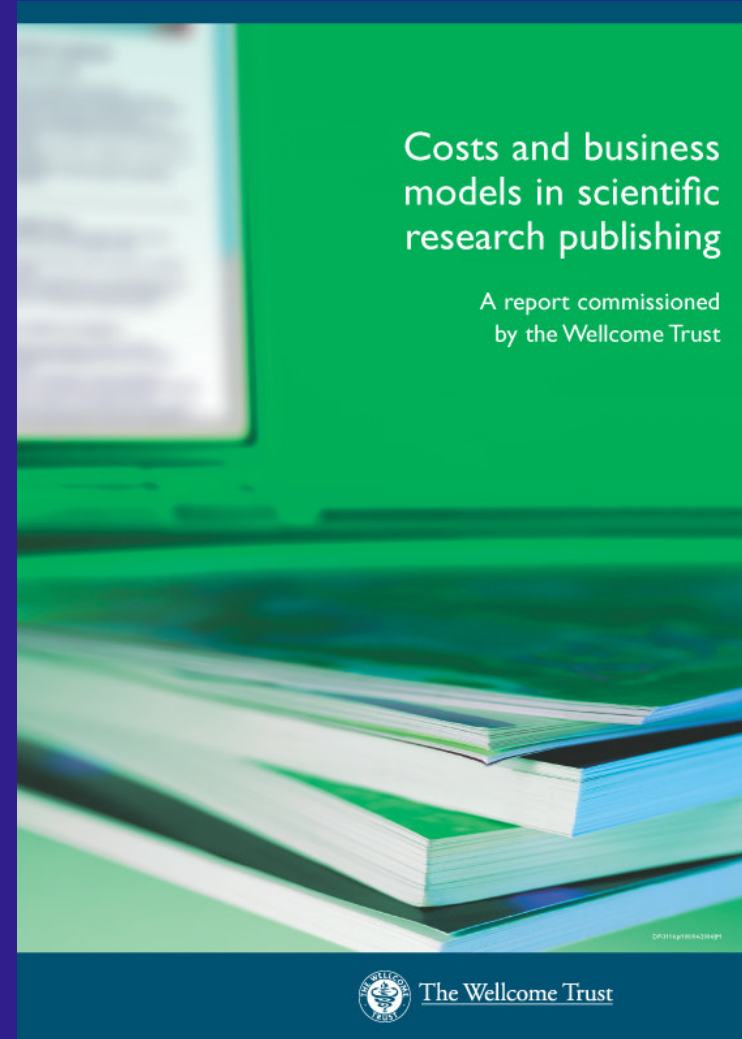
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Why should open access publication be important to research funders?

- Just funding the research is a job only part done – a fundamental part of a funder's mission is to ensure the widest possible dissemination and unrestricted access to that research.

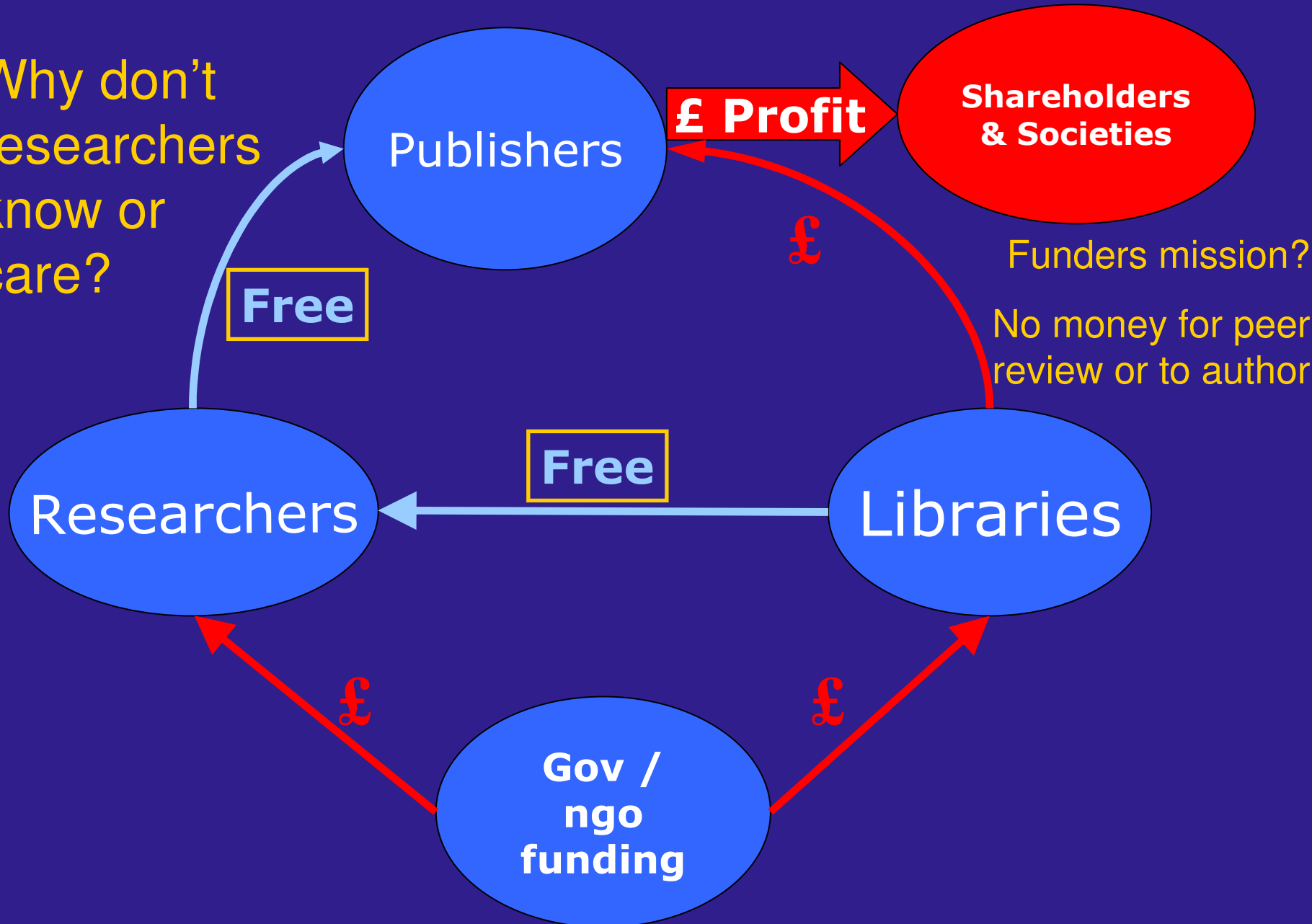


<http://www.wellcome.ac.uk/publications>



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Why don't researchers know or care?



Funders mission?
No money for peer review or to author

Publish in any journal but deposit a copy in an open access repository

What do research funders want:

- **Immediate access** - but can work with 6 months delay to allow market to adapt.
- **Long-term digital archive** – accurate, future-proof preservation
- **Searchable** – ‘under one roof’ subject based
- **Build on existing research practice** e.g. Medline
- **Added features:** - funders attribution, public engagement
- **Integration** - live links with other databases e.g. genes, proteins, citations
- **Strategy** – improve evaluation and impact
- **Sustainable quality peer-review system** - hybrid models as a transition

Two routes to improve access – two routes to improving research

- publish in an open access journal
- publish in any journal but deposit a copy in an open access repository

Will OA publishing cost more?

Cost element	Proportion of costs
1. Refereeing	22%
2. Editorial and typesetting (i.e. from acceptance to first copy)	33%
3. Subscription management	7%
4. Physical production and distribution (including postage)	23%
5. Sales and marketing	13%
6. Promotion to authors	2%
Total	100%

Whole system savings of 30% ?

Estimated costs per article:

\$2,750 subscription

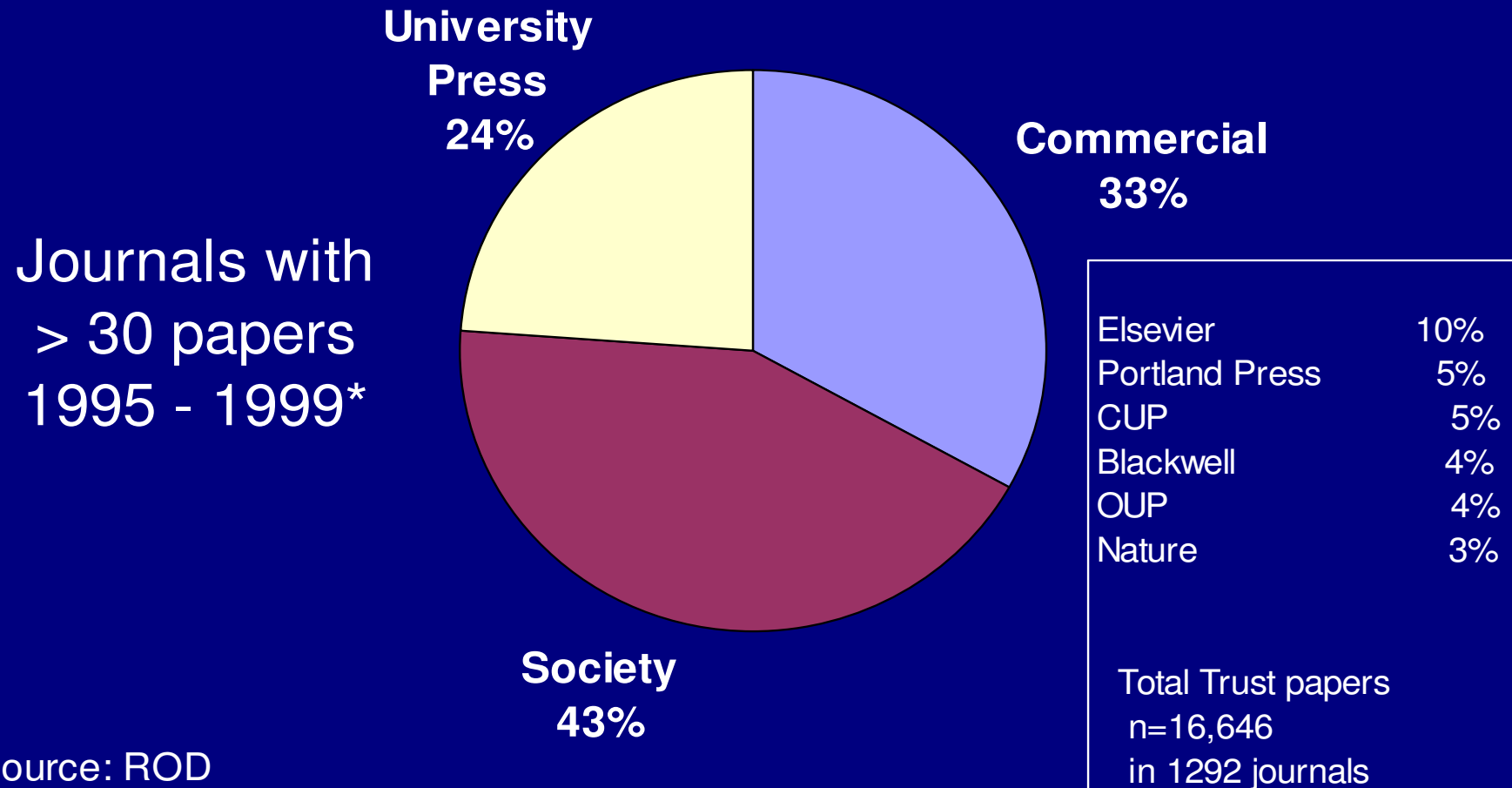
\$1,950 open access

Submission fee \$175
publication drops to \$550

Charges of \$10,000++ include contribution of funds to overheads, surplus or profit

What will it cost funders?

Trust estimates: 1 – 2% of research budget



*Source: ROD

The Wellcome Trust Grant condition

- Will provide Grant Holders with additional funding to cover the costs of open access publishing e.g. all OA journals + OUP, Springer, Blackwell(?)
- Requires electronic copies of all Trust-funded research papers that have been accepted for publication in a peer-reviewed journal to be deposited into PubMed Central (or UK PubMed Central once established).
- Note that this requirement will apply to all grants awarded after 1 October 2005 and, from 1 October 2006, to all grants regardless of award date.

Copyright and grant conditions

Researchers sign grant conditions before any copyright agreement so they can:

- (a) Grant a *licence* of their copyright to a journal instead of *assigning* e.g. Creative Commons
- (b) Sign a journal's normal arrangements only on the condition that it be specifically agreed that deposition in PMC can take place.
Insert Trust clause
- (c) Reconsider where to publish.

Trust copyright amendment

Notwithstanding any of the other provisions of this agreement, the journal acknowledges that the researcher will be entitled to deposit an electronic copy of the final, peer-reviewed manuscript into PubMed Central (PMC) (or UK PubMed Central (UKPMC) once established).

Manuscripts deposited with PMC (or UKPMC) may be made freely available to the public, via the Internet, within 6 months of the official date of final publication in the journal.

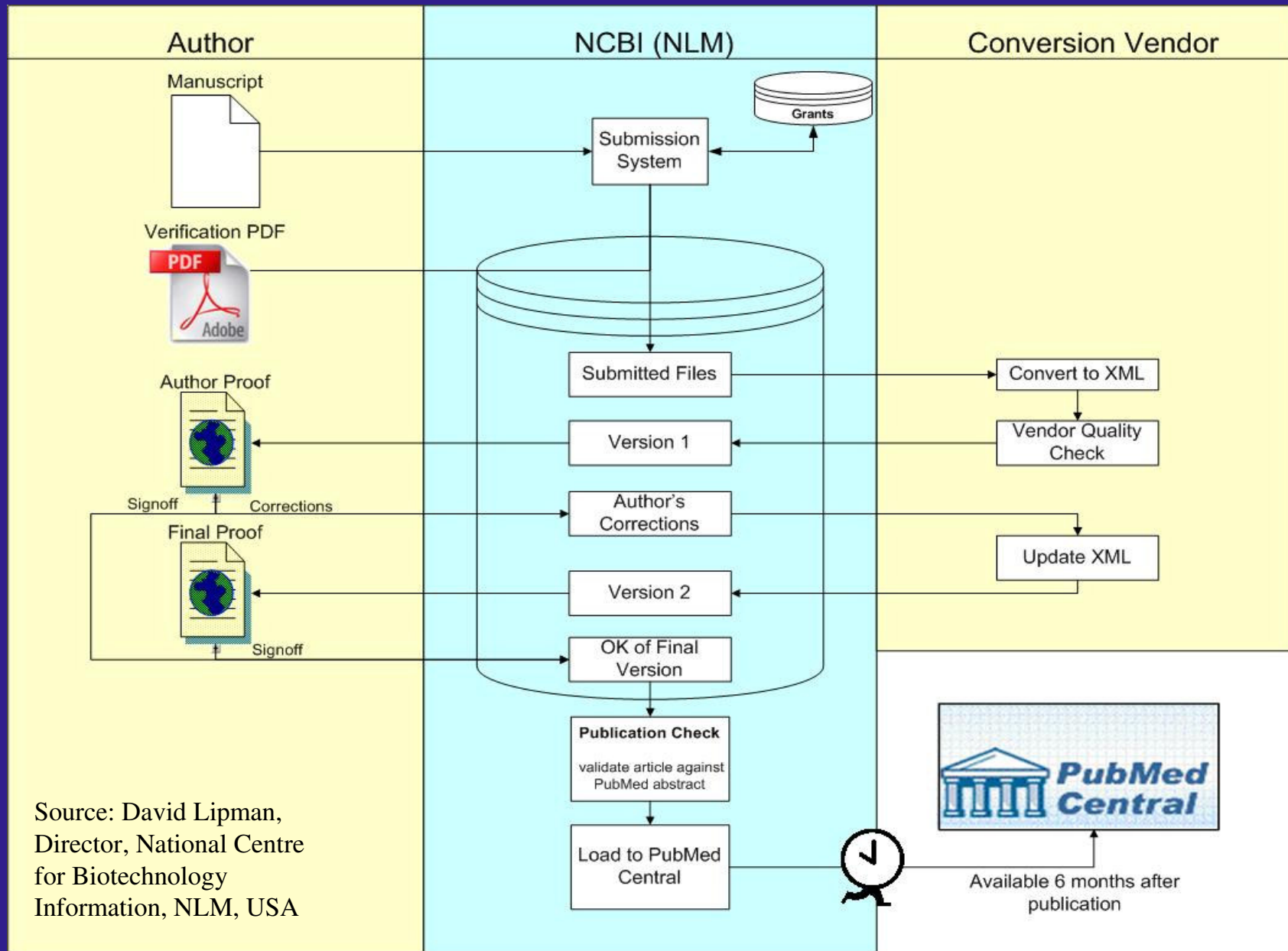
Portable PubMed Central – UK PMC

To develop a PubMed Central portal in the UK that will create a stable, permanent digital archive of peer-reviewed biomedical research publications that is accessible for free via the Internet.*

*Dept. of Health, MRC, BBSRC, JISC, Cancer Research – UK, British Heart Foundation, Arthritis Research Campaign, Wellcome Trust, AMRC.

Mirror the data from USA, Japan, France...
collaboration and competition.

How will UK PMC work



UKPMC – quality, consistency, integrate data & literature

There are three types of errors that PubMed Central deal with:

1. **Structural Errors** do not conform to the ruleset (DTD) that they were written for e.g. XML tags are wrong: `<surname>Jones</snm>`

2. **Content Errors** formula, tables, paragraphs, special characters (Greek characters or symbols) are not correct.

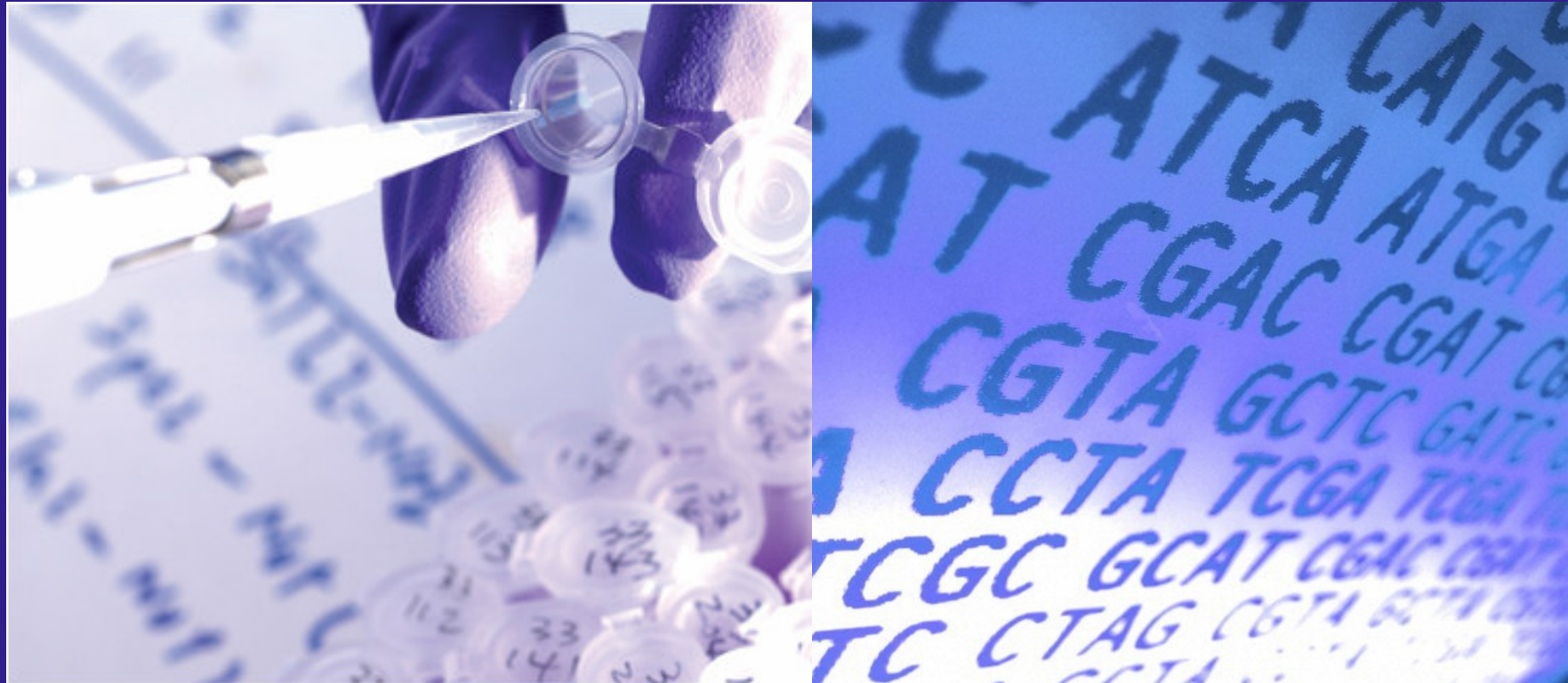
3. **Consistency Errors** tagged in one style suddenly switches e.g. For the first 5 years of content, Journal X has been tagging dates like:
`<date>10-12-2004</date>` (m-d-y)

Then, this date appears in content:

`<date>14-12-2004</date>` (this must be d-m-y)

4. Integrate the literature with the data

It's all about the data ...



Volume 100 Number 20, 30 September 2003

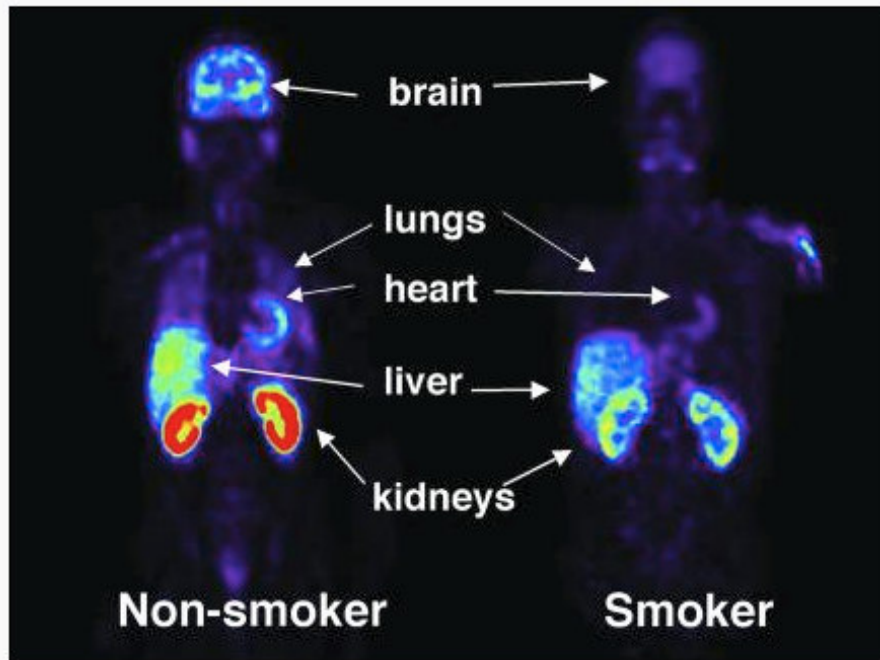


Fig 2.

Whole-body images of carbon-11 distribution in one of the nonsmokers and one of the smokers. These subjects were scanned with L-[¹¹C]deprenyl, and scanning was started at 25-min post-radiotracer injection. Red is the highest radiotracer concentration on the color scale, and images are scaled so that they can be compared directly.

Go Clear Free full-text only SmartSearch
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smokers.
Franceschi D, Pappas N, Ferrieri R, Shea C, Garza V, Xu Y, Schlyer D, Gatley M, King P, Vaska P.
15. published online before print September 12, 2003
[Links](#)

Source: David Lipman,
Director, National Centre
for Biotechnology
Information, NLM, USA

Link to imaging agent in PubChem through MeSH

The screenshot shows a PubMed article page with a PubChem Compound overlay. The article title is "Low monoamine oxidase activity in the brain of selegiline-treated mice" by Joanna S. Fowler et al. The PubChem Compound overlay displays the chemical structure of selegiline and provides the following information:

- SID: 66385
- CID: 134262
- Name: selegiline
- PubMed-via-MeSH: 1786 links
- Identical Compounds: Same Connectivity: 11 links
- Similar Compounds: 119 links

The source of the compound is listed as CHEMBANK (2284). A sidebar menu on the left includes options like "Related articles", "Taxonomy", and "PubChem Substance".

Source: David Lipman, Director, National Centre for Biotechnology Information, NLM, USA

Links between sequence and related proteins

The screenshot displays the NCBI Entrez Protein interface. At the top, a navigation bar includes links for BLAST, Protein, Structure, PubMed, Taxonomy, Genome, Nucleotide, 3D-Domains, Books, and Help. The main query area shows a search for a hypothetical protein from *Neurospora crassa* (gi|32419048) with a matching entry (gi:28926253).

The central panel shows the protein entry for **NP_001005735**, identified as a protein kinase. The entry includes the following details:

- LOCUS:** NP_001005735, 586 aa, linear, PRI 28-OCT-2004
- DEFINITION:** protein kinase CHK2 isoform c [Homo sapiens].
- ACCESSION:** NP_001005735
- VERSION:** NP_001005735.1 GI:54112407
- DBSOURCE:** REFSEQ: accession [NM_001005735.1](#)
- KEYWORDS:** .
- SOURCE:** Homo sapiens (human)
- ORGANISM:** [Homo sapiens](#)
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
- REFERENCE:** 1 (residues 1 to 586)
- AUTHORS:** Dufault, M.R., Betz, B., Wappenschmidt, B., Hofmann, W., Bandick, K., Golla, A., Pietschmann, A., Nestle-Kramling, C., Rhiem, K., Huttner, C., von Lindern, C., Dall, P., Kiechle, M., Untch, M., Jonat, W., Meindl, A., Scherneck, S., Niederacher, D., Schmutzler, R.K. and Arnold, N.
- TITLE:** Limited relevance of the CHEK2 gene in hereditary breast cancer
- JOURNAL:** Int. J. Cancer 110 (3), 320-325 (2004)
- PUBMED:** [15095295](#)
- REMARK:** GeneRIF: there is a limited relevance for CHEK2 mutations in familial breast cancer.

A 'Links' popup menu is visible on the right side of the protein entry, listing various database links:

- Gene
- Full text in PMC
- GeneView in dbSNP
- Related Sequences
- Nucleotide
- OMIM
- PubMed
- Taxonomy
- LinkOut

On the left side of the interface, there are sections for 'Best hits' (200 BLAST), 'Archaea' (0), and 'Keep only' (712 aa).

The funders are now involved...the market place has changed

Berlin Declaration - 129 signatories from all over the world

NIH

RCUK

UK PubMed Central group

DH

British Heart Foundation

CR-UK

MRC

BBSRC

Arthritis Research Campaign

The Internet is changing the market place...



...and greater (free) access can have unpredicted positive impacts

Radio (1930s) and gramophone sales

Televised football and increased crowd attendance

Video and increased cinema audiences

iPOD and individual music track sales

Opposition to innovation is not new....

- **The 1850 Public Libraries Act was the first of a series of Acts enabling local councils to provide free public libraries funded by a levy of a ½ d rate.**
- **widely opposed in Parliament by the Conservatives, who were alarmed by the cost implications of the scheme, and the social transformation it might effect.**

“..Speak to people in the medical profession, and they will say the last thing they want are people who may have illnesses reading this information, marching into surgeries and asking things. We need to be careful with this very, very high-level information.”

Oral evidence to House of Commons inquiry, March 1st 2004, John Jarvis (Managing Director, Wiley Europe)



...of course not all opposition is
entirely complimentary

Making a pig's ear of an unscientific free-for-all

René Olivieri, Chief Executive, Blackwell Publishing Ltd. THES 19/08/05

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Volume 3 | Issue 3 | MARCH 2005

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Essay

Funding the Way to Open Access

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Abbreviations: UKPMC, United Kingdom PubMed Central

Citation: Terry R. (2005) Funding the Way to Open Access. PLoS Biol 3(3): e97.

open-access,
freely available

Essays
articulate a
specific
perspective
on a topic of
broad
interest to
scientists.

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Imagine this scenario. You're the director of one of the world's largest medical research charities, and you receive notification from one of your funded investigators in Africa reporting some exciting progress toward the development of a vaccine for malaria. The work has just been published, so you log onto the Web to do a quick keyword search, and a link to the article is brought up on your screen.

Then imagine the frustration when you click on the link to read the message, "Access Denied—access to this journal is restricted to registered institutional and individual subscribers."

How to deposit a Wellcome Trust paper in PubMed Central

<http://www.wellcome.Submission of a paper.uk/ukpmc/submissionexample.html>