The Public Library of Science: Open-Access Publishing and Advocacy

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What is the Public Library of Science?

- A nonprofit organization of scientists and physicians committed to making the world's scientific and medical literature a public resource
- by driving a change in the publishing model to open-access publishing
- by generating tools for mining the scientific literature and for making it comprehensible to non-specialists around the world



Inspiration for PLoS founders

- The Internet
- PubMed—an electronic database of article abstracts
- The Human Genome Project and GenBank immediate public access to genome sequence data
- arXive—physics pre-print server
- Journals with free access to their online version (BMJ, JCI, etc.)
- BIREME and SciELO—virtual health libraries in Latin America



PLoS: advocacy organization and open-access publisher

- Goal: ensure an open-access home for every paper worth publishing
 - Establish top-tier journals in biology and medicine to demonstrate that OAP can work at the top level
 - Support existing journals who want to adopt OAP
 - Where necessary, start new journals to serve individual communities and to demonstrate the feasibility of open access
- Develop ways to make the scientific literature more useful to scientists and the public



PLOS

PUBLIC LIBRARY of SCIENCE

PLoS Flagship Journals

October 2003



Extinct eagles and island gigantism A conserved element of SARS RNA Neural encoding of sensation





Heritability of cancer in Iceland Lessons from Ebela in Uganda **Creative** physicians Sleeping and appetite

Coming soon... **PLoS Clinical Trials**

PLoS Computational Biology: May '05 PLoS Genetics: June '05 PLoS Pathogens: Sept '05

unity Journals



What is an open-access publication?

- 1. Authors grant right to access and license to copy, use, distribute, transmit, and display the work publicly and to make and distribute derivative works for any responsible purpose, subject only to proper attribution of authorship and source.
- 2. Complete electronic version of the work is deposited in a public repository that seeks to enable open access, unrestricted distribution, interoperability, and long-term archiving.



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Goal: overcome access barriers and encourage creative uses. Users can copy, translate, print, incorporate into databases, etc.

More info: www.creativecommons.org



Why is open access important?

- No financial barrier
 - Authors reach largest possible audience
 - Readers (scientists, physicians, educators, public) have access to and the right to use the entire literature
 - Access to health information as a human right
- Allows text and data mining and analysis that is not possible unless full text and data are in one information space
- The benefits of research are derived principally from access to research results ⇒ open access maximizes research benefits
- Transparency is essential for public trust in science



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Financing open access: publication as final step of research project

- Still costs money to produce an article:
 - mediate peer-review
 - edit and lay out articles
 - create PDF and HTML versions
 - host them on a fast and robust server
 - deposit them into an open-access archive
 - save some money to invest in future developments

Publication charges per published article

- PLoS journals: \$1,500/accepted paper (waived whenever authors say they cannot pay)
- Many authors already pay (submission charges, page charges, color charges)
- Who should pay: supporters of research (funders, institutions) who now pay for most subscriptions
- Open-access publication of results maximizes funders' investment in research



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Stakeholders in scholarly publishing

- Researchers (authors, reviewers, editors, scientific societies)
- Publishers (facilitators, service providers)
- Research supporters (public and private funders/sponsors, universities, research institutes)
- The public (indirect sponsors of publicly funded research, research participants, research consumers)
- Educators and politicians

Full Open Access requires systemic change... and it is happening



What does PLoS do for developing countries?

- Not enough!
- Access to read/use is only one side
- Access to contribute?
 - Highlight open-access articles published elsewhere
 - Editorial Board members in developing countries
 - Commission magazine section articles from dev' country authors (students, policy makers, etc.)
 - Encourage research submissions, constructive evaluation
- Future PLoS projects: more inclusive, more focused on debate (allowing everybody to contribute) and on development of tools that unify the scientific literature





Volume depletion in malaria Screening for domestic violence The future of surgical research Antiretrovirals and lipid changes • Open access

PLoS Medicine: Launch Oct 2004

www.plosmedicine.org

- High quality
- International
- Modern
- Broad (focus on human studies that address global health issues)
- No drug advertisements
- Research and interpretation
- Audience:
 - Researchers
 - Physicians
 - Health policy makers
 - Medical educators and students
 - Health care providers
 - Patients and their families anywhere around the world

An open-access alternative to the existing general medical journals – and more



There are lots of inequalities in medicine and health care. Access to the latest peer-reviewed research results doesn't have to be one of them. Work with us.

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