

Promoting open access to research results

Position paper issued by the Swiss Academy of Medical Sciences

Information on the preparation of this position paper

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Executive Summary

The Swiss Academy of Medical Sciences (SAMS) advocates close links between clinical practice and medical science and dialogue with society. Accordingly, it supports the implementation of open access. The SAMS takes the view that open access to research results is the best way of ensuring and improving the availability of information for researchers, healthcare professionals, patients and the general public. In view of the latest global developments in open access described in this position paper, the SAMS calls on publishers and scientific actors to facilitate and expedite the transition to open access, in order to maximize the benefits of medical research for society.

Background

At present – despite the substantial public interest in the latest research findings – rapid, straightforward and inexpensive access to medical literature can by no means be taken for granted. The growing costs of subscriptions and licences for journals and databases are placing considerable pressure on libraries and their funders. Comprehensive information provision, in the sense of medical institutions being able to guarantee their members continued access to the current state of knowledge, is becoming increasingly unaffordable.¹ This situation is unacceptable, given the importance of medical research and practice. Moreover, existing information resources are generally only available to members of universities and university hospitals, since only these institutions can bear the immense costs of providing medical information. Healthcare personnel at non university hospitals, physicians in private practice and patients are largely excluded from access to the latest data and knowledge.

For some years, the SAMS has been calling for physicians' expertise to be strengthened through closer links with the scientific basis of medicine.² For this reason, it has adopted the goal of enabling all healthcare professionals with a scientific interest – including those outside the university setting – to gain access to research literature.³

1 Cf. the Harvard Library Faculty Advisory Council Memorandum on Journal Pricing, 17 April 2012: <http://isites.harvard.edu/icb/icb.do?keyword=k77982&tabgroupid=icb.tabgroup143448> (accessed on 13.6.2014).

2 Medicine as a science: Position paper of the Swiss Academy of Medical Sciences (SAMS). Basel, 2009, pp. 9–11: www.samw.ch/dms/en/Publications/Statements/e_Medicine_as_a_sciene.pdf (accessed on 13 June 2014).

3 Mehrjahresprogramm 2012–2016 der Schweizerischen Akademie der Medizinischen Wissenschaften – Programme pluriannuel 2012–2016 de l'Académie Suisse des Sciences Médicales, Basel, pp. 43 (German) and 55 (French): www.samw.ch/dms/de/Portrait/d_MJP_12-16.pdf (accessed on 13 June 2014).

Because the open access model allows research publications to be freely accessed online, irrespective of location and institutional affiliation, it has been supported by the SAMS for around ten years. As a member of the Swiss Academies of Arts and Sciences, the SAMS is a co-signatory to the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities.⁴ In the view of the SAMS, open access currently represents the best way of ensuring that scientific knowledge and research data are made permanently available to the broadest possible professional and lay readership in a sustainable manner. This position is based on the findings of key studies⁵ and on the demands of other organizations.⁶

Today, most Swiss universities have guidelines, in the form of an institutional policy, requiring their members to make publications freely available under the open access model. To this end, almost all higher education institutions have established their own repositories, where authors can deposit full-text versions of their publications (*green open access*). Many publishers now permit such self-archiving under certain conditions.⁷ However, the requisite enquiries are often complicated and unnecessarily prolonged. This is partly due to poorly defined policies and stringent legal restrictions (permission granted only in response to a written request, long embargo periods, etc.). Clearly formulated and less restrictive policies would significantly facilitate the progress of open access and thus the rapid and unrestricted dissemination of medical knowledge.

Green Open Access:

The full text of a publication is deposited in an online open access repository (self-archived). This may be either the published version or the author's peer-reviewed, accepted manuscript.

4 <http://openaccess.mpg.de/Berlin-Declaration> (accessed on 13 June 2014).

5 Davis, Philip M. Open access, readership, citations: a randomized controlled trial of scientific journal publishing. *FASEB Journal*, 2011, 25(7): 2129–2134. <http://dx.doi.org/10.1096/fj.11-183988> (accessed on 13 June 2014).
Houghton, John et al. Economic implications of alternative scholarly publishing models: Exploring the costs and benefits, 2009: www.jisc.ac.uk/publications/reports/2009/economicpublishingmodelsfinalreport.aspx (accessed on 13 June 2014).

6 The Swiss Academy of Humanities and Social Sciences has been actively supporting the implementation of open access for some years: www.sagw.ch/sagw/laufende-projekte/open-access.html (accessed on 13 June 2014).
See also the position paper on open access issued by the German Medical Students' Association, 16 June 2013: http://bvmd.de/fileadmin/intern_alle/Positionspapiere/2013/2013-06-15_Positionspapier_Open_Access.pdf (accessed on 13 June 2014).

7 Information can be found in the SHERPA/RoMEO copyright database maintained by the University of Nottingham: www.sherpa.ac.uk/romeo/ (accessed on 13 June 2014).

Recent years have also seen a steady rise in the number of peer-reviewed biomedical *gold open access* publications. In terms of quality and impact, many journals of this kind are in no way inferior to established “closed access” journals. However, the pricing policies recently adopted by major publishers of open access journals give cause for concern: as well as progressive increases in publication fees (not based on the actual costs of processing), researchers are generally confronted with charges which are anything but transparent.

Growing numbers of subscription-based, closed access journals are offering the option of publishing individual articles on an open access basis. However, this so-called *hybrid open access* model is particularly expensive for research institutions: here, the publication fees are generally considerably higher than for gold open access journals;⁸ in addition, journal subscriptions still have to be paid in full (so-called double-dipping). Accordingly, open access publication in hybrid journals only merits support in cases where the publication fees are directly and fully offset against subscription charges, or open access publication options are included in these charges.⁹

Gold Open Access:

Journals, multi-author works, monographs or textbooks can be freely consulted from the time of first publication. This is financed not by sales (e.g. subscription charges or licence fees), but via alternative models such as publication fees for individual contributions, paid by the authors or their institutions.

Hybrid Open Access:

Closed access journals offer authors the option of paying for open access publication of individual articles.

8 Van Noorden, Richard. Open access: The true cost of science publishing. Cheap open-access journals raise questions about the value publishers add for their money. *Nature*, 2013. 495(7442):426–429. <http://dx.doi.org/10.1038/495426a> (accessed on 13 June 2014).

9 See, for example, the voucher model employed by the Royal Society of Chemistry: www.rsc.org/Publishing/librarians/GoldforGold.asp (accessed on 13 June 2014).

A question which always arises in connection with open access concerns the rights granted for further use of a publication. In recent years, standards have been established for the reuse of publications, teaching materials and data. If knowledge and ideas are to be widely and productively shared, reuse needs to be subject to as few restrictions as possible. For this reason, leading open access publishers¹⁰ publish content under the Creative Commons Attribution licence (CC BY)¹¹ – the only licence meeting the requirements of the Berlin Declaration.

Creative Commons (CC):

Standard, global, readily comprehensible licences specifying the conditions for reuse of publications or data.

CC BY:

This CC licence permits unrestricted reuse of works, provided that the original author is appropriately credited in each case.

The SAMS, together with the research community, also feels obliged to take specific measures to promote open access. In view of the radical changes occurring in scientific publishing, authors need to be increasingly aware of the legal and financial questions addressed here. There is a growing need for research institutions and their libraries to enhance researchers' knowledge and skills in this area and to provide support in the form of advisory services.

Finally, the SAMS believes that there is an urgent need for research assessment models to be redefined – including the incentives for the selection of publication organs.¹² To date, the quality of research output has mainly been evaluated on the basis of journal rankings and, in particular, the Journal Impact Factor.¹³ This practice should be questioned on various grounds – e.g. because the Journal Impact Factor does not capture the impact of individual articles, and because

10 For example, members of the Open Access Scholarly Publishers Association (OASPA): <http://oaspa.org/why-cc-by/> (accessed on 13 June 2014).

11 See <http://creativecommons.org/licenses/by/4.0/> (accessed on 13 June 2014).

12 The SAMS is among the first signatories, worldwide, to the San Francisco Declaration on Research Assessment (DORA): <http://am.ascb.org/dora/> (accessed on 13 June 2014).

13 On the structural problems affecting quality control of medical science and research, see the series of five articles on "Research: increasing value, reducing waste" published in the *Lancet*, 2014, 383 (9912 and 9913), and in particular: Ioannidis, John P.A., Greenland S., Hlatky M.A., et al. Increasing value and reducing waste in research design, conduct, and analysis. *Lancet*, 2014, 383(9912):166–175: [http://dx.doi.org/10.1016/S0140-6736\(13\)62227-8](http://dx.doi.org/10.1016/S0140-6736(13)62227-8) (accessed on 13 June 2014).

it may be manipulated by publishers.¹⁴ In addition, it takes no account of open access or of potential reuse of publications. If different impact definitions and evaluation models were used, authors' reputations would be enhanced just as much by high-quality publications in open access journals as by publications in established closed access journals. The dissemination of medical knowledge would thus be promoted, and due recognition would be accorded to the social utility of research.

14 Arnold, Douglas N., Fowler, Kristine K. Nefarious numbers. *Notices of the AMS*, 2011, 58(3):434–437: <http://www.ams.org/notices/201103/rtx110300434p.pdf> (accessed on 13 June 2014). See also the critical position of the Association of Scientific Medical Societies in Germany (AWMF): Brunner, Edgar, Herrmann-Lingen, Christoph. *Bibliometrie in der Medizin – die Position der AWMF. Bibliometrie – Praxis und Forschung*, 2012. Nr. 1. URN: urn:nbn:de:bvb:355-bpf-155-0 www.bibliometrie-pf.de/article/view/155/0 (accessed on 13 June 2014).

Recommendations

The SAMS urges all publishers and organizations producing biomedical literature:

- to permit open access to scientific publications, in particular via self-archiving in an institutional repository, no later than 6 months after publication;
- to allow unrestricted reuse of scientific publications, ideally under the terms of the Creative Commons Attribution licence (CC BY);
- to adopt straightforward, cost-effective and transparent cost models for open access publications;
- to ensure, when using a hybrid open access model, that any publication fees are directly and fully offset against the subscription charges paid by the institutions for the journals in question.

In addition, the SAMS recommends that all scientific actors take the following measures, and intends to support such efforts in the future:

- Scientists should make their research results available to the scientific community and to the general public as rapidly as possible via open access journals or open access repositories.
- Scientists should consider refusing to publish research results – or to collaborate (e.g. as a reviewer or Editorial Board member) – with any publishers who do not comply with the above recommendations.
- Research institutions and funding agencies should seek to influence publication practices by developing guidelines to promote open access to publications and research data, providing funds for this purpose and establishing programmes to monitor compliance with the guidelines.

- Research institutions and libraries should support the efforts of the scientific community to acquire the knowledge and skills needed to understand new publishing models. This calls for training, courses within the curriculum and the establishment of advisory services.
- Research institutions and funding agencies should develop and test new models for the evaluation of research output, giving greater weight to criteria such as the accessibility and potential for reuse of scientific findings, so as to maximize the benefits of science to society.