Managing an Open Access Fund: Tips from the Trenches and Questions for the Future

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Managing an Open Access Fund: Tips from the Trenches and Questions for the Future

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Abstract
The authors describe the process and results of an ongoing Open Access Fund program at the Health Sciences Library of the University of Colorado Anschutz Medical Campus. The fund has helped students and other early career researchers pay for the article processing charge or APC to publish their articles in an OA journal since 2013. In the three years since, the fund has paid the APC for 39 applicants with a total expenditure of $37,576. Most applicants were students as intended, however the fund supported a surprisingly large number of medical residents and junior faculty. Individuals associated with the School of Medicine overwhelmingly represented the awardees compared to other units, and the Public Library of Science (PLoS) journals were the most common journal they published in. While acknowledging the undeniable benefit of the fund to the awardees, the authors also pose challenging questions about the future role of libraries in subsidizing open access journals.

Objectives
In this paper, the authors describe the workflow they have developed to manage an open access fund through the Health Sciences Library at the University of Colorado Anschutz Medical Campus so that others interested in starting a similar program can learn from their experiences. They also raise questions about the sustainability of both the author-pays funding model and the open access fund itself calling for continued critical analysis of scholarly communication models.

Introduction
Peter Suber, the Director of the Harvard Open Access Project, defines open access or OA
literature as "digital, online, free of charge, and free of most copyright and licensing restrictions" (Suber, 2012). Typically, it applies to scholarly information and contrasts with the most prevalent and traditional form of academic publishing where research information is published in fee-based journals, and only subscribers (such as libraries) have access.

A common action taken by authors publishing in a traditional journal is to transfer copyright of the article to the publisher. Most OA journals, in contrast, allow authors to retain copyright or at the very least, have generous sharing allowances. Maintaining control over the author's intellectual property may be one factor in the growth of the Open Access movement leading to the expansion of variations in copyright licenses, such as Creative Commons (2016).

Without revenue from subscriptions, OA journals have had to rethink the approach to subsidizing their businesses. The model that has attracted the most attention is the "author-pays" model where the author pays a fee, often called the article processing charge or APC, to publish an article while the reader gets full access without charge. But it is not the only one and others include use of advertising (e.g., Google ads) and institutional subsidies (e.g., from universities or learned societies) (Crow, 2009; Open Access Directory, 2016) as alternative ways of financing open access publishing businesses.

The author-pays model however is the best known, even though it may not be the most common, and major OA publishers, like the Public Library of Science (PLoS) and Biomed Central (BMC) in the health sciences, have captured the attention of authors who want to publish OA. In response, many academic libraries started offering "OA funds" to help their authors afford the APC (SPARC, 2016). It is a tangible way to support open access and bring attention to the other "open" trends in academia and technology, including open data and open source for software codes.

**Methods**

**Starting the OA Fund**

The Health Sciences Library (HSL) at the University of Colorado Anschutz Medical Campus (AMC) has a tradition of supporting open access. The library has sponsored information sessions since 2007 for the campus and when the NIH Public Access Policy became law in 2008, our faculty and students looked to the library for assistance on depositing articles into PubMed Central (National Institutes of Health, 2008). In addition to the OA Fund, the Health Sciences Library offers institutional repository support for published and unpublished works (University of Colorado Anschutz Medical Campus, 2016), supplies information on various initiatives of open science (Gezetter, 2009), and advocates for author unique identification through ORCID (2016).

In 2013, when the library initiated the OA Fund, PLoS and BMC offered institutional memberships that allowed our university's affiliated faculty and students a discount to the APC when publishing in those journals. For membership, the library paid thousands of dollars annually and in return our authors received a 10% discount to the APC. However, 10% off still meant authors can pay considerable sums to make up the difference, and not surprisingly, only a handful of AMC authors took advantage of our memberships. Furthermore, the number of new OA journals and publishers was increasing making it clear to the committee that the library
needed to provide opportunities to publish beyond BMC and PLoS. An OA Fund that does not rely on membership discounts and that may be used with any legitimate OA publisher seemed to be an appropriate solution.

The program today has evolved over the years from practices the library first adopted from other campus OA funds. The authors describe below our current program while the modifications made to the program and their rationales are explained in the Results and Discussion sections.

Application Process
The OA Fund is managed primarily by an OA Fund committee comprised of library faculty (including the authors of this paper) and support staff, and available to AMC affiliated individuals only. The program is offered in rounds, one in the Spring semester and a second in the Fall. Each round is opened on a pre-announced date and time, and closed once the funds are completely reserved for qualified applicants. Marketing the next round relies on a mass email to AMC personnel shortly before it opens and an advertising blurb on the library's home page. Financing is entirely from the library budget established each time and ranging from $4000 to as much as $12,000 per round. The length of time the application is open has been as short as 48 hours especially when the budget is limited.

Eligibility for the fund is based on basic criteria and not on the substance or quality of the article being submitted for publication. The program is explicit about what it accepts and how the applications are assessed. Rules and requirements, conveyed in detail on the library's website (http://hslibraryguides.ucdenver.edu/openaccess/fund), can be summarized as follows:

- the applicant must be affiliated with the AMC;
- the applicant has never received the award;
- the journal must be reputable (Table 1);
- the journal must be fully OA and not "hybrid;"
- the article must have been submitted or accepted for publication.

The OA Fund committee verifies affiliation status using student registration data and employee human resources information, and it makes sure the journal to which the article has been submitted is legitimate based on criteria shown on the checklist in Table 1. The overall goal of the checklist is to verify the veracity of claims made by the journal or publisher by confirming the journal's International Standard Serial Number (ISSN), its indexing locations, its ethical standards, its Impact Factor if any, its publication timeline, and its editor's qualifications. If the journal does not meet the criteria, the application is not considered for the award.

Verification of the journal's OA versus "hybrid" status relies on information posted on the journal's website. Hybrid journals combine the subscription model with the author-pays model such that some articles in the same issue of a journal may be open only to subscribers while others are OA. The application also asks the applicant to affirm that he or she is the first or corresponding author of the paper and that no other funding is available for the APC.

Eligible applicants are scored using a point system (Table 2) that prioritizes students over other applicants, such as medical residents and faculty. It also takes into account timeliness of the application submission, the timing rules of which are adjusted with each round depending on the
volume of submissions. Finally, those applicants whose papers have been accepted when applying are given higher priority over those whose articles are still under peer-review.

Within the allocated budget, applicants with the highest total points are notified by email with an official letter and asked to accept or decline the award.

Payment Process
Paying the APC is often a complicated process and may vary according to individual university finance rules and publisher preferences. In the case of the HSL OA Fund, awardees are offered the full APC amount, the funds of which are reserved until the committee receives a publisher invoice at the time of publication. The time delay between award and payment can be many months since the manuscript under peer review may be subject to multiple revisions before it's finally accepted or rejected. While the rules specify a 6-month deadline for reserving funds, as long as applicants keep the committee informed, the deadline can be extended. All application information is recorded in a shared spreadsheet, including name, status, article title, journal, amount of the APC, payment information, and pertinent communications with the applicant.

Once the applicant sends an invoice, the library's financial staff member works directly with the publisher to pay the APC. The payment workflow includes the steps described below.

1. Determine if the publisher is an approved university vendor.
2. If it is an approved vendor, and the amount is less than $5000, then the APC will be charged to a library credit card. Using the credit card is the quickest way to make payment.
3. If the publisher is not an approved vendor, then the charge must be entered into the university's fiscal system for approval before the publisher can be paid.

Post Publication
When the article is published, the awardee submits a PDF copy for deposit into the institutional repository (University of Colorado Anschutz Medical Campus, 2016) in order to ensure a stable source for the article that supplements the copy at the publisher's site.

Results
The sum of the allocated semiannual budget for the OA Fund from Spring 2013 through Spring 2016 was $50,000 but the actual amount spent was $37,576. The committee received 55 applications and awarded money to 39. The difference between the figures is due to several factors.

First, some awardees declined the award because they could not afford to pay the remaining balance of the APC when the amount was capped at $1,000 during the earlier rounds. Beginning in 2015, the committee decided to pay the entire amount after realizing that awardees declined the fund due to their inability to pay the difference of the APC. Although the OA Fund program helped fewer applicants as a result of this decision, the committee concluded that in balance paying the full amount for these few individuals was more beneficial.

Another factor leading to the disparity in the figures is that some applicants simply did not follow all of the fund rules and were excluded as a result. For example, a few had previously
received an award while others asked to fund the APC of a non-OA journals or in later rounds, hybrid journals. The committee elected to stop funding hybrid journals in 2015 after deciding that it didn’t want to risk “paying twice,” both the cost of a subscription to a publisher in addition to the APC.

Furthermore, there was an instance where a paper was rejected by the publisher and one where the journal was potentially problematic based on our criteria for journal reputability (Table 1). In this particular case, the committee shared its concerns with the author and suggested that he submit the article to a different journal.

Figure 1 shows that awardees by program from 2013 to 2016 are overwhelmingly affiliated with the School of Medicine perhaps because Medicine compared to other units on this campus, is associated with a strong culture of research. Other units represented among the awardee pool with one each include the School of Pharmacy, the Colorado School of Public Health, and the College of Nursing. No awardees were affiliated with the School of Dental Medicine.

**Figure 1. Chart showing awardee by school or college.**

![Bar chart showing awardees by school or college.](image)

Values at the top of each bar is the total number for each category. SOM: School of Medicine; SOP: School of Pharmacy; CSPH: Colorado School of Public Health; CON: College of Nursing; SODM: School of Dental Medicine.
Awardees by status in Figure 2 shows that the fund supported a relatively high number of faculty and residents even though our preferred awardee group is students. This result seems to indicate that the program is effective in its aim to primarily support students, while allowing the possibility of supporting faculty.

Figure 2. Chart showing awardees by status.

Values at the top of each bar is the total number for each category. Jr Faculty: Junior faculty (within 5 years of their careers); PostDoc: post-doctoral fellows; Res/Fellow: medical residents, interns and fellows; Other: professional research assistants

Finally, Figure 3 shows awardees by publisher. It reveals that PLoS was the most strongly represented publisher, followed in order by these categories: Other OA, Hybrid, BMC and Hindawi. The Other OA publishers include: American Academy of Neurology, American Society of Microbiology, e-Century Publishing Corporation, Frontiers Research Foundation, IEEE, International Institute for Science, Kowsar, Nature, Open Science, Technology and Education, and The Company of Biologists. The Hybrid journals, which were funded only through Fall 2014, are published by Cold Spring Harbor, Elsevier, Oxford, SciELO, and Springer.
A review of some of the most significant changes, and lessons learned, to the workflow and rules of the OA Fund may be helpful to other libraries that are considering their own fund.

In terms of payments, the OA Fund committee decided to include an accounting staff member in the process whose familiarity with the vendor payment system was a tremendous asset. At first the OA Fund supported the APC exclusively with a library credit card, which became complicated due to the many rules surrounding financial transactions at our institution. For example, the library had difficulties using a credit card with a particular publisher because they are not headquartered in the United States, causing problems with our institution’s financial transaction rules. Additionally, our institution required a traditional invoice from this publisher for which there was a charge. Currently the APC is paid as detailed in the Methods section, using a similar workflow to the way the library pays vendors for regular journal subscriptions if possible. This procedure coupled with the fact that the fund pays the entire APC and therefore need only one invoice, has streamlined the payment process.

The OA Fund program modified the $1000 cap not only to help awardees who could not make up the difference, but to make the payment process easier. The APC is more than $1000 for
many publishers and the invoice they presented to us was for the full charge. When library administration decided that publishers needed to issue separate invoices for our portion and the author’s portion, everyone, including the authors, the publisher and the library, often faced delays, errors, and confusion.

Another lesson learned also relates to money but within the university rather than between the library and the publisher. As mentioned, during the application process the applicant must affirm that no other funding source is available to pay the APC, whether from his or her department, a grant, or some other source. The fund’s policy is that a researcher’s own unit (e.g., lab, department or school) should have primary responsibility to pay if possible. It was always the committee’s intention to support researchers only after all other sources have been eliminated. Although the committee does not have a way of verifying that there is no other source of funding available to the applicant, the addition of this rule in the application process may have motivated some authors to seek other funding first.

The OA Fund committee also learned to vet applicants just as it does publishers. Early in the development of the OA Fund, it added an eligibility requirement for the fund that favored students and researchers early in their careers (defined as being within 5 years of the start of their careers) because the committee wanted to help those with less access to financial support for their scholarship. However, committee members realized there was a need for a way to avoid senior faculty members asking students to apply for the OA Fund when in fact the student’s involvement was not substantive; the award would primarily benefit the senior faculty member. By requiring that the applicant be a first or corresponding author in the paper, this scenario is easier to prevent.

The committee is considering limiting journal publishers to only those that are well-known, fully open access publishers. Such an action helps avoid having to take the time to investigate unfamiliar, potentially unscrupulous publishers. Setting up a payment process for a select number of publishers also reduces payment complications. Committee members furthermore question whether payments to OA journals by publishers to which the library also pays subscription costs is something that should continue.

The experiences managing the OA Fund since 2013 have, perhaps not surprisingly, raised larger issues about a library's role in funding open access. Readers may want to consider the following questions:

- The source of the HSL’s program budget and perhaps also other library OA funds, consists of one-time money from the library that happens to become available each year and it is inherently not sustainable. Should the library continue the program on the contingency that a sustainable source of funding be identified from somewhere else on campus?
- Should libraries take on the role of paying APCs at all? Is it more appropriate for the researchers’ academic units to assume these costs if grant support is unavailable?
- For non-hybrid fully open access journals owned by publishers that produce both open access and subscription-based journals (for example, Elsevier, Sage, and Wiley), are library OA funds subsidizing their subscription journals?
• Should libraries put their energy into encouraging authors to deposit all articles in an open access institutional repository as a way of ensuring copyright retention or making articles openly accessible, rather than providing funding for individual open access journals or articles?
• Should libraries challenge the high APCs and ask publishers to reduce the costs? Should they question more vigorously the costs of subscription journals as well?
• Can libraries contribute in another way besides paying APCs or membership fees that prioritizes the authors and the readers over the publishers, or even play a more active part? A few libraries are beginning to take on the role of journal publisher or host and many variations of this model are showing promise (Perry, 2011).

Although there may not be any simple answers to questions surrounding the publishing practices of open access journals, closely examining those practices may help usher in reform. Libraries can assess the needs of their users to determine whether or not an OA fund is an appropriate program to offer. While the HSL's OA Fund program is a success because it has helped 39 awardees get a head-start in their careers, the way forward may be instead to support new and disruptive systems and technologies that provide other publishing options for scholarly authors.
Table 1. Checklist for determining reputability of a journal or publisher

<table>
<thead>
<tr>
<th>Actions</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check the ISSN</td>
<td>Resource: World Cat (OCLC, 2016)</td>
</tr>
<tr>
<td>Check general or specialized databases to see where the journal is</td>
<td>Resources: UlrichsWeb Global Serials Directory* - includes science,</td>
</tr>
<tr>
<td>indexed</td>
<td>social science and humanities (Ulrichs, 2016)</td>
</tr>
<tr>
<td></td>
<td>Web of Science journal list – includes science, social science and</td>
</tr>
<tr>
<td></td>
<td>humanities (Thomson Reuters, 2016)</td>
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<tr>
<td></td>
<td>Medline – only health sciences (National Library of Medicine, 2016)</td>
</tr>
<tr>
<td></td>
<td>CINAHL journal list – only nursing and allied health (EBSCO, 2016)</td>
</tr>
<tr>
<td></td>
<td>SCOPUS journal list – includes science, social science and humanities (Elsevier, 2016)</td>
</tr>
<tr>
<td>Check compliance with publishing ethics standards</td>
<td>Resources: COPE - Committee on Publication Ethics (COPE, 2016)</td>
</tr>
<tr>
<td></td>
<td>OASPA - Open Access Scholarly Publishers Association (OASPA, 2016)</td>
</tr>
<tr>
<td>Verify the Impact Factor</td>
<td>Resource: Thomson Reuters Journal Citation Reports* (Thomson Reuters, 2016 - JCR)</td>
</tr>
<tr>
<td>Check the turn-around time from submission to publication decision</td>
<td>The publication process usually takes months. Peer-review alone may</td>
</tr>
<tr>
<td></td>
<td>take weeks or longer.</td>
</tr>
<tr>
<td>Examine the expertise of the journal editor</td>
<td>If an editor’s CV can be found online, verify that the editorship is</td>
</tr>
<tr>
<td></td>
<td>listed. Search for the editor’s publications to confirm his or her</td>
</tr>
<tr>
<td></td>
<td>qualifications.</td>
</tr>
<tr>
<td>Check for verbatim language in the journal's website found on another</td>
<td>Most journals will have their own unique policies and guidelines.</td>
</tr>
<tr>
<td>publisher's website</td>
<td></td>
</tr>
</tbody>
</table>

*Fee-based subscription resource available at academic libraries.
Table 2. Point system used to prioritize the OA Fund applications.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Categories</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timing of the application*</td>
<td>Within 24 hours of the opening of the round (e.g., Monday 9am – Tuesday 9am)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Within 2\textsuperscript{nd} 24 hours (e.g., Tuesday 9am – Wednesday 9am)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Within 3\textsuperscript{rd} 24 hours (e.g., Wednesday 9am – Thursday 9am)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>After 72 hours</td>
<td>0</td>
</tr>
<tr>
<td>Applicant Status</td>
<td>Student</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Residents, Post-doctoral fellows, or Junior Faculty (within 5 years)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Senior Faculty</td>
<td>1</td>
</tr>
<tr>
<td>Article Status</td>
<td>Accepted for publication</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Submitted for publication</td>
<td>2</td>
</tr>
<tr>
<td>Total points possible</td>
<td></td>
<td>10</td>
</tr>
</tbody>
</table>

*The rules for timing were adjusted with each round according to the volume of applicants. The timing shown is one example of how points were applied to each application.
References


University of Colorado Anschutz Medical Campus. (2016). Digital Collections of Colorado.