Improving Publication Quality and Quantity for Acute Care Authors From Low- and Middle-Income Settings

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Improving Publication Quality and Quantity for Acute Care Authors from Low- and Middle-Income Settings

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ABSTRACT

Study objective: Researchers from low- and middle-income countries have limited access to publishing and editing resources. This study describes a journal-initiated platform to improve publication quantity and quality in Sub-Saharan Africa emergency care research: Author Assist.

Methods: This is a descriptive report of a quality improvement project of referrals to the African Journal of Emergency Medicine's (AfJEM's) Author Assist program between January 2011 and December 2015. After either pre– or post–peer review rejection, authors are matched to an experienced volunteer assistant to revise and resubmit their article in a process that blinds handling editors and reviewers, but not the editor in chief, to participation. Participant data were collected from an Author Assist coordination database and linked to Scopus (Elsevier, Amsterdam, The Netherlands) and the journal's online submission platform.

Results: Of the 47 articles referred for Author Assist, 12 (26%) were originally rejected in the pre–peer review stage and 35 (74%) after peer review. Twenty-eight (60%) authors offered Author Assist enrolled. Of the 14 resubmissions during the study period, 12 (86%) were accepted for publication. For comparison, 37 of 40 regular revisions (93%) (without assistance) were accepted for publication during the same period.

Conclusion: Author Assist reversed 1 in 4 rejection decisions through a process that unavoidably but minimally biases peer review. Of the few free publication-improvement services targeting researchers in low- and middle-income countries, AfJEM's Author Assist is the only journal-led initiative, and the only one specific to emergency medicine. To continue to refine the design of the program, we recommend further qualitative research exploring author decisions to pursue or forgo enrollment in Author Assist and research examining author and assistant experiences once enrolled.

INTRODUCTION

Background

Sub-Saharan Africa accounted for 1.7% of the world's total emergency care research output from 2010 to 2015, hugely disproportional to its 12% share of the global population.[1] Sub-Saharan Africa research output suffers from a lack of both quality and quantity, despite international collaboration on approximately 40% of all scientific publications.[1] Increasing evidence shows that African research institutions do not provide the degree of support needed by individual scientists to autonomously produce and disseminate high-quality academic literature.[2-6] This is due to a host of factors, including barriers to access of scientific materials, lack of focus on research training, and poor mentorship infrastructure.[2-8] A 2014 report by the World Bank—focusing on research output and citation impact in Sub-Saharan Africa—recommends that African stakeholders accelerate support to research and research-based education to bolster the local knowledge economy.[9]

Importance

This study describes a journal-initiated platform to improve publication quantity and quality in Sub-Saharan Africa emergency care research. Since its launch in 2011, the *African Journal of Emergency Medicine* (*AfJEM*) has strived to provide context-specific, open-access, academic publishing within the region. Editors were faced from the outset with the systemic issues of low submission quantity and poor quality described above. Very few initiatives exist globally to address these issues in low-resource settings, and none that the authors found is specific to a single journal or medical specialty. Collaboration was identified in the run-up to the launch of the journal as a potential way to specifically improve regional submissions; Author Assist was subsequently offered from the journal's very first issue (2011).[10] Author Assist is a peer-to-peer mentorship service that pairs early-career African authors with an experienced, published, volunteer assistant. Through one-on-one mentoring, the assistant helps the author improve his or her article to a publishable standard for resubmission.

Goals of This Investigation

The aim of this study was to describe the role of Author Assist as a publication mentorship program by evaluating the publication work flow of the *AfJEM*. Additional objectives included describing the proportion of articles that were accepted, rejected, or withdrawn subsequent to author assistance; the average length of time from rejection to resubmission; and the number of publications in the 2 years after publication in *AfJEM* with author assistance.
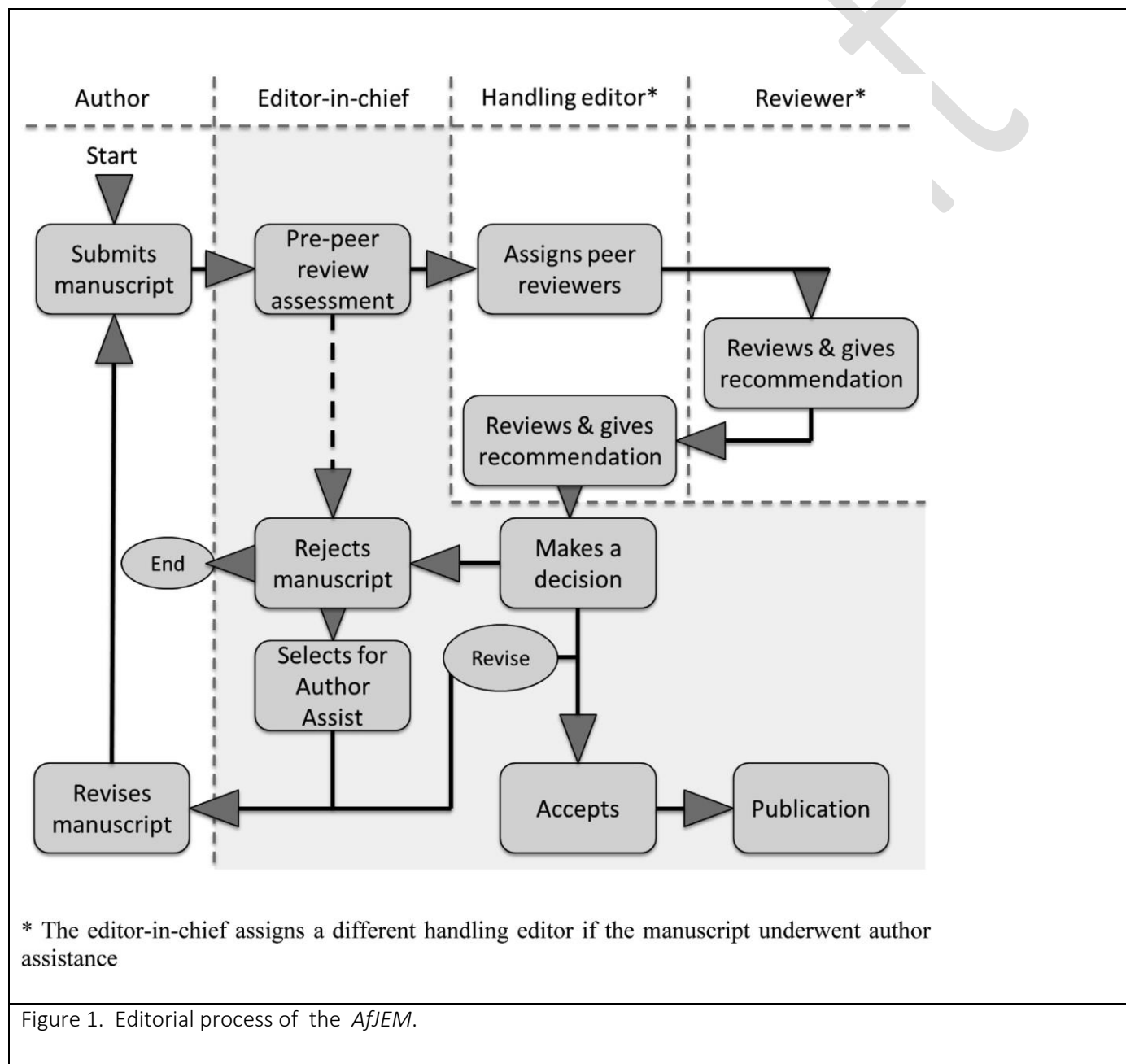
MATERIALS AND METHODS

Study Design and Setting

A descriptive report of the journal work flow including the *AfJEM*'s Author Assist program between January 2011 and December 2015 was applied as a service evaluation. The report involved details of the editorial process of the journal, as well as anonymized details of authors and assistants involved in the Author Assist program. The editorial process of the *AfJEM*, including Author Assist, is detailed in Figure 1.

The first step after submission of a new article to the *AfJEM* includes a brief quality check by the editor in chief. This check includes a cursory review of the overall quality of the content, as well as whether the topic falls within the scope of the journal. As with most journals, the article can be rejected at this pre–peer review stage should its content be judged to be of poor quality or the theme deemed outside the journal scope. Articles judged to be of a reasonable to good quality, falling within the journal's scope, are accepted for peer review. A handling editor is assigned to select and assign the peer reviewers. Peer review is double blinded: this means that the identity of the author(s) is withheld from peer reviewers and vice versa. Once the peer reviewers have provided their feedback to the handling editor, the handling editor makes the decision about whether the article should be considered for publication, revised, or rejected. This decision, along with the handling editor's and peer reviewers' feedback, is conveyed to the editor in chief for a final publication decision. The editor in chief then makes the publication decision that is provided to the author (accept, revise, or reject).

An article is considered for Author Assist when it has been rejected (either in pre– or post–peer review assessment) according to the overall poor quality of the content but still falls within the scope of the journal. The author(s) of these articles are informed in the publication decision letter that the article has been rejected because of the quality of the content, but—should the author(s) choose to make use of it—that the journal will provide free author assistance to improve the quality and will allow a single resubmission, as a new submission, at a later stage (the comments from the peer reviewers and handling editor, if any, are also included). Rejected articles (those that were out of journal scope or otherwise deemed inappropriate for Author Assist) are not offered resubmission. If the author agrees, an appropriate assistant, matched by interest and availability, is chosen from a database of experienced, published, volunteer assistants. All assistants are peer reviewers for the journal and, before joining Author Assist, must have published at least 3 articles in an emergency care topic, acting as first author on at least one. Currently, the majority of authors who meet this criterion practice in North America and Europe. Prospective assistants currently have to submit a brief publication résumé and complete a short online evaluation before inclusion consideration. Initially, assistants were included according to reviewer performance and recommendation from the editorial board or existing assistants. Assistance ranges from simple language editing for non–native-English-speaking authors to substantial reviewing, reanalyzing, and

reinterpreting of the original data reported in the article. A memorandum of understanding outlining the expectations is agreed to by the author(s) and assistant. Authorship for the assistant may be included, but only if the International Committee of Medical Journal Editors' authorship criteria are satisfied.[11] Of the 12 articles accepted on resubmission, 9 have assistants included as an author. The memorandum of understanding also allows authors to withdraw their article from the program at any time, or to petition a replacement assistant.

* The editor-in-chief assigns a different handling editor if the manuscript underwent author assistance

Figure 1. Editorial process of the *AfJEM*.

The reworked article is then resubmitted as a new article and the submission process described above repeats itself, with one exception: if the article is accepted for peer review, it is assigned to a new handling editor and peer reviewers. To minimize bias, handling editors are not informed that an assistant was involved or that the submission is a reworked resubmission. From their perspective, the resubmission is the first submission. Handling editors do not have access to the Author Assist database and do not have knowledge of the identities of assistants. Detailed information related to Author Assist is known only to the Author Assist coordinator, technical editor, and editor in chief, who oversees the process and ensures that peer reviewers from the first round are not reselected. As a rule, the journal's editor in chief does not overturn reject decisions made by handling editors.

Selection of Participants

All authors offered Author Assist between January 2011 and December 2015, their assistants, and their articles were included. This former unintentionally included only first authors (who happened to coincidentally also be the corresponding authors in all instances). The involvement of coauthors in the Author Assist process is not known. Given the limitations of the retrospective sample, we included only the first authors in the analysis.

Methods of Measurement

Data were obtained through the Author Assist coordination database. This was supplemented by the first authors' publication numbers and rates from Scopus (Elsevier, Amsterdam, The Netherlands). The number of Author Assist referrals and rejection type, as well as reviewer comments, were extracted from the back end of the Elsevier Editorial System (Elsevier), the article submission platform for *AfJEM*. Authors' and assistants' names, as well as article titles, were used to link articles from the Author Assist coordination database to both Scopus and the Elsevier Editorial System. Names for authors, assistants, and article titles were removed from the sample for analysis. Affiliations and country of origin data are not presented. The Elsevier Editorial System was also used to obtain journal decision detail. The study was approved by the research ethics committee of the authors' institution.

Outcome Measures

The primary outcome of this study was describing the proportion of articles that were accepted subsequent to author assistance. The secondary outcomes were describing the proportion of articles that were rejected or withdrawn subsequent to author assistance, the mean length of time (days) from first rejection to subsequent resubmission, and the number of publications (by the first author) in the 2 years after publication in *AfJEM* with author assistance.

Primary Data Analysis

The main results are expressed as proportions of the journal's work flow decisions. Articles that were accepted,

rejected, withdrawn from Author Assist, or in progress at the writing of this article are presented. To contrast, the outcome (accept or reject) of general resubmissions from articles that did not require Author Assist are provided.

Publications in the 2 years subsequent to publication after Author Assist are provided as all publications and first-author publications, with the total and median provided. Given the small size of the sample, more complex statistical tests were not included. Microsoft Excel (version 15.0; Microsoft, Redmond, WA) was used for analysis. In an attempt to describe the critical issues that led to rejection in the first instance (eg, design, statistical, quality and clarity of writing, grammatical), an informal review was made of reviewer comments of pre– and post–Author Assist reviews.

RESULTS

Characteristics of Study Subjects

Of the 47 articles referred to Author Assist, 12 (26%) were rejected in the pre–peer review stage and 35 (7%) post–peer review. Breakdown of article type reveals 28 (60%) original research articles, 7 (15%) reviews, 7 (15%) case reports, 4 (9%) commentaries, and 1 (2%) letter.

Main Results

Of the 47 first authors offered Author Assist, only 28 (60%) enrolled. Figure 2 provides the journal's work flow data. Of the 14 submissions resubmitted after Author Assist, 12 (86%) were accepted after peer review. Of the 7 Author Assist assignments under way at the end of the study period, 5 were commenced in 2015.

Four of the accepted Author Assist articles have been cited at the writing of this article (with 16 citations among the 4 articles). Of the 2 rejected articles, one was resubmitted for peer review after enrolling for Author Assist, but without engaging with the assigned assistant. The other was originally considered as within scope but rejected as out of scope after corrections to language and structure clarified the author's message and intended audience. The journal accepted 137 and rejected 112 original research articles, reviews, case reports, and commentaries during the study period. It follows that Author Assist reversed 1 in every 4 (12/47) reject decisions and contributed to 1 in every 11 (12/137) publications overall. The time from rejection to publication was a median of 130 days (interquartile range 37 to 169 days). Data were available for 7 of the first authors who published again in the 2 years subsequent to publishing in *AfJEM* with author assistance. This included a total of 30 publications (median 4), of which the authors were listed on 19 as first author (median 1).

Pre–Author Assist reviewer comments were available for 9 of the 12 accepted articles with Author Assist (3 articles were rejected pre–peer review and did not include reviewer comments). Clarity of the writing and major grammatical concerns were raised for all articles. Concerns with study design were raised for 5 articles. Statistical concerns were not specifically mentioned. Eight reviewers commented on the importance of the work they were

reviewing. Post–Author Assist reviewer comments recommended minor corrections for 8 articles and major corrections for one article. These corrections were in regard to clarity of writing and minor grammatical issues, but not design or statistical concerns.
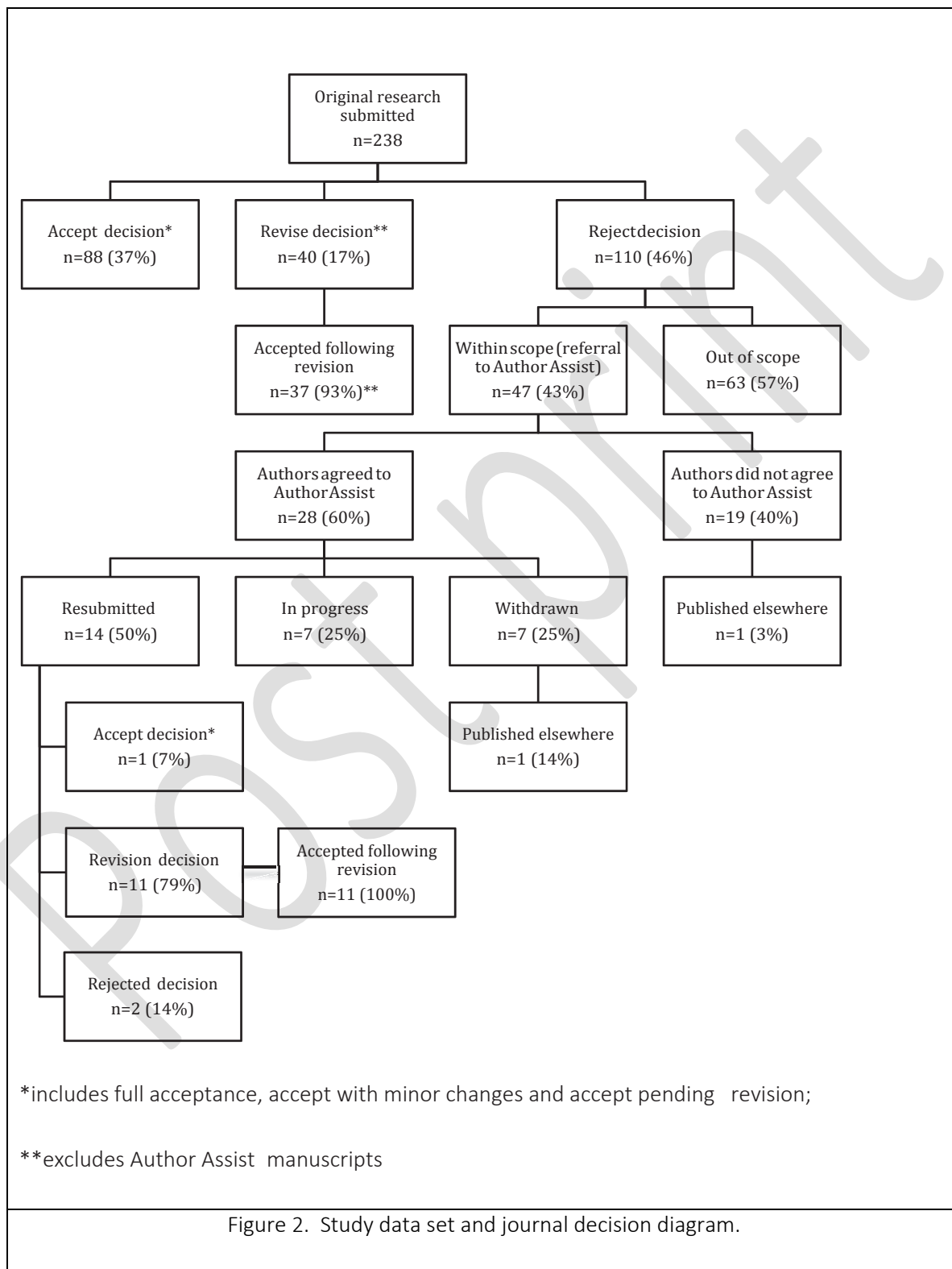
Original research submitted
n=238

Accept decision*
n=88 (37%)

Revise decision**
n=40 (17%)

Reject decision
n=110 (46%)

Accepted following revision
n=37 (93%)**

Within scope (referral to Author Assist)
n=47 (43%)

Out of scope
n=63 (57%)

Authors agreed to Author Assist
n=28 (60%)

Authors did not agree to Author Assist
n=19 (40%)

Resubmitted
n=14 (50%)

In progress
n=7 (25%)

Withdrawn
n=7 (25%)

Published elsewhere
n=1 (3%)

Accept decision*
n=1 (7%)

Published elsewhere
n=1 (14%)

Revision decision
n=11 (79%)

Accepted following revision
n=11 (100%)

Rejected decision
n=2 (14%)

*includes full acceptance, accept with minor changes and accept pending   revision;

**excludes Author Assist manuscripts

Figure 2. Study data set and journal decision diagram.

LIMITATIONS

The small sample size restricts generalizability and is a limitation. There were several reasons for this: overall quantity of submissions was low, and only articles with subject matter appropriate for the journal were included. Author-level metrics were presented only for the first author and not coauthors, mainly because data related to Author Assist engagement from coauthors were not reliably captured. It is likely that coauthors would have benefited from mentorship as well. For unclear reasons, 40% of authors offered assistance declined it. This is an important finding that is not answered by the study. Given the size of this cohort and the potential for improving publication success, this subgroup will need further evaluation.

DISCUSSION

This study showed that Author Assist substantially contributed to publication volume and quality during a 5-year period within a limited African emergency care publication setting. Successful publication after Author Assist was comparable to that after a general revision without assistance. Only one article was published elsewhere from the cohort that was offered assistance (but whose author declined the offer) and one from those that were withdrawn after their authors initially signed up for assistance. Reviewer recommendations were significantly different before and after Author Assist. This achievement was attained with minimally biased peer review, allowing a fair process. Some bias is inherent in the editor in chief's management of the Author Assist work flow and assignment of new, blinded peer reviewers. This is not necessarily detrimental because oversight is required at some level. In any event, given the journal resources, this cannot be avoided.

Other than Author Assist, to the authors' knowledge after a thorough Web search, there are only 2 other free, online advisory services for researchers. The Supercourse helpdesk, operated by the Library of Alexandria in Egypt, assists researchers with early design and methodology queries.[12] The service targets research in general and not publication specifically. The Supercourse helpdesk also uses a volunteer expert database to provide answers to queries. Another service, AuthorAID, assists authors with writing for publication and grant application.[13] AuthorAID is aimed at low- and middle-income countries and likewise makes use of expert volunteer mentors. Authors use key words to search for a mentor within their field of research. At the writing of this article, there were no mentors available in emergency care–related topics on AuthorAID's database.

What sets Author Assist apart from these services is that it is a publication-improvement service provided by the journal. Emergency medicine is a new specialty within the African context, and poor publication volumes and quality have already been described in this article. The *AfJEM* is a niche journal that exclusively publishes within this knowledge-poor setting. Similar journal-initiated assistance projects can help boost quality and quantity in other world regions with similar research trends (eg, Middle East, Eastern Europe, South America). Given the editor-in-

chief's understanding of the publication priorities of the journal, poorly written articles from low- and middle-income settings that fall within the journal's scope can be appropriately referred for assistance to improve publication success. This has the dual effect of increasing knowledge through peer-reviewed publication and encouraging novice researchers to publish. A similar example of journal mentorship relates to the 1991 to 1995 Croatian War of Independence, when the *Croatian Medical Journal* mentored 65 authors to publish both in the *Croatian Medical Journal* and in other international journals on the medical effect of the war. Two articles that reviewed this process reported substantial improvement in postassistance publication quality and quantity.[14,15]

It is unfortunate that a small number of resubmitted articles were rejected and that some authors withdrew midway through the process; the 4-month rejection-to- resubmission time likely contributed to this. At the time, the journal did not have the resources to closely follow up on assignments. This has been addressed partly through the appointment of a technical editor and the commissioning of a qualitative study to evaluate Author Assist (the latter has been completed and is currently being reviewed by the authors). Qualitative studies and interventions to improve author participation in Author Assist will likely offer insight into the reasons why 7 authors withdrew their articles after enrolling, as well as why 19 authors did not take up an offer of assistance.

Going forward, a more detailed comparison of before-and- after articles may also be a worthwhile study, identifying the areas that require amendment and investigating whether these amendments converge in themes or not. It may also be informative to identify whether articles whose authors were not offered Author Assist, and those who were offered but declined, were subsequently published in different journals.

The importance of an assistance service to authors publishing in low- and middle-income settings should not be underestimated. This study offers a glimpse of what could be achieved through further international collaboration. Increasing the volume and quality of emergency medicine research outputs will largely dictate the academic growth of the specialty within the Sub- Saharan Africa setting. Author Assist introduces a journal- led initiative that effectively increases emergency care outputs without compromising quality within a research- limited setting. Because many African authors seek to publish in international journals, it would be interesting to determine whether similar initiatives used elsewhere could also improve research outputs.

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