

Predatory Invitations from Journals: More Than Just a Nuisance?

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Disclosures of potential conflicts of interest may be found at the end of this article.

ABSTRACT

Physicians and academic researchers are frequently targeted with spam invitations to submit manuscripts to predatory journals. This study was conducted to understand the nature and characteristics of these invitations. All spam e-mails received by an academic medical oncologist over a 3-month period were collected and

categorized. Presumed predatory journal invitations were analyzed and cross-checked against Beall's list of "potential, probable, or possible predatory" journals and publishers. Invitations to submit to predatory journals were the most common single type of spam received. *The Oncologist* 2017;22:236–240

BACKGROUND

The term "spam" is often applied to unsolicited commercial e-mail and other undesirable or unwanted e-mail communications. The term was originally derived from a Monty Python sketch set in a restaurant where the meat product SPAM is in almost every dish [1]. As the waitress describes the menu, a group of Vikings begins singing, "Spam, spam, spam, spam, spam," drowning out all other communication. The analogy to unsolicited commercial solicitations in one's e-mail inbox is clear. Spam now accounts for over 80% of all e-mail globally and is increasingly reported in clinical practice [2, 3]. The cost of receiving spam is not insignificant and results in considerable lost productivity. For the practicing oncologist, is spam moving beyond these basic annoyances and becoming more pervasive and sinister?

Of all the types of spam received within the academic biomedical research setting, perhaps the most rapidly increasing are e-mails inviting recipients to submit manuscripts for publication [4]. So-called "predatory journals" are defined as those that display "an intention to deceive authors and readers" [5]. The main purpose of these journals is to profit from article processing charges, and they may therefore have little regard for the scientific quality or integrity of the work they accept. They may also promise expedient review, rapid publication, and relatively low author processing charges [2, 6]. In practice, predatory journals can be difficult to identify, as there are relatively few comprehensive sources to identify recognized journals and their publishers. In addition, predatory journal logos, names, and remits may be very similar to established legitimate journals, creating additional confusion.

Moreover, given that the current system of incentives in academia is centered upon one's ability to get published,

predatory journals fill a void for researchers looking to meet these demands. Although many researchers and clinicians will simply delete these invitations, with the increasing need to "publish or perish" in one's academic career, others may be more vulnerable to the allure these invitations can offer in a system geared toward rewarding productivity rather than quality [7, 8]. There is also the distinct possibility that funded research may be getting "published" in these predatory journals, not only wasting money but also severely limiting the potential reach of publicly funded information, as predatory journals are not typically indexed or searchable (e.g., in PubMed).

Despite the perceived rise in the number of spam e-mails received, relatively little is known about their magnitude and nature in the oncology setting. The objective of this study was to prospectively evaluate spam e-mails received by an academic oncologist and to explore in greater detail the nature of predatory journal invitations.

METHODS

This study used an anecdotal cross-section research design. One of the authors (Mark Clemons) is a medical oncologist practicing within a university-affiliated academic cancer center. His research is predominantly in the area of breast cancer management. He only has one e-mail address, which is run through the institutional firewall. During the 3-month study period, all e-mails that he perceived as being spam (unsolicited, unwanted, commercial-type e-mails) were moved to a separate folder for subsequent categorization and analysis. For e-mails from presumed predatory journals, additional information was

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Panel 1: Details Collected for Analysis of Predatory Journals

1. Date e-mail received.
2. The name of the journal and associated publisher.
3. Does the journal include connotations of global context, e.g., adjectives such as “world,” “global,” and “international?”
4. Whether or not the journal and/or publisher was indexed on Beall’s list of suspected predatory journals.
5. Any special flattering salutations associated with the invitation—“eminent,” “prominent,” or “expert,” or references to the recipient’s “valuable publications.”
6. Claims that they had read the recipient’s papers.
7. Claims that they had read the recipient’s papers despite being out of the journal’s claimed area of study.
8. Awkward sentence structure and spelling mistakes.
9. Extremely general topics.
10. Name of person sending e-mail (e.g., Daisy) and their title.
11. Place journal is “based” (e.g., New Jersey).
12. Does the publisher provide full, verifiable contact information, including address, on the journal site?
13. Does the journal prominently display its policy for author fees?
14. What are the costs to submit?
15. Invitation to become editorial board members.
16. Is the journal’s peer-review process clearly described?
17. Does the journal claim to have an impact factor? Is it correct?
18. Is the journal a member of an industry association that vets its members, such as the Directory of Open Access Journals (www.doaj.org) or the Open Access Scholarly Publishers Association (www.oaspa.org)?
19. Turnaround time for papers.
20. Whether the invitations were from a biomedical journal (assessed by reading each invitation for any mention of biology or medicine) and, if so, the broad ICD-10 categorization (Table 1).
21. Relevance of e-mail to scope of practice and research.
22. A claim of being open access.
23. Whether peer review was mentioned and, if so, whether there was mention of an expedited review process.
24. The existence of an unsubscribe mechanism.

collected, including the name of the journal and associated publisher, use of hyperbole and flattering salutations, the name of the person sending the e-mail, details on the description of the peer-review processes used, and whether there was an unsubscribe mechanism. For a full list of variables collected, see Panel 1.

STATISTICAL ANALYSIS

Once the data collection period ended, the invitations were exported to Microsoft Excel, the data were cleaned by a research assistant (M.S.), and descriptive analyses were completed. The data are presented as frequency distributions. Beall’s list of suspected predatory journals and publishers [9] was used (accessed during the week of August 15, 2016) to cross-reference invitations [10].

RESULTS

Between January 21 and April 21, 2016, 578 e-mails that the recipient felt were spam were received (Table 1). The most common categories of e-mails were invitations to submit manuscripts to presumed predatory journals ($n = 191$, 33.0%), invitations to attend conferences ($n = 109$, 18.9%), product advertisements ($n = 98$; 16.9%), and surveys ($n = 67$, 11.6%). Other sources of spam included newsletters from journals the recipient had not subscribed to ($n = 45$, 7.8%), invitations to attend webinars ($n = 28$, 4.8%), requests to review manuscripts

Table 1. Categories of spam e-mails received during study period

Category	E-mails received, $n = 579$ (% of total)
Predatory journals	191 (33.0%)
Predatory conference invitations	109 (18.8%)
Advertisements	98 (16.9%)
Surveys ^a	67 (11.6%)
Journal newsletters	45 (7.8%)
Webinars	28 (4.8%)
Requests to review by journals not known to the recipient	16 (2.8%)
Scholarships and prizes	11 (1.9%)
Employment opportunities	5 (0.8%)
Gibberish (lines of links, other languages, text files)	8 (1.4%)

^aSurveys came from a number of sources, including publishing groups/journals, market research agencies, pharmaceutical companies, health care panels, patient support providers, and clinical trial evaluation agencies.

from journals unknown to the recipient ($n = 16$, 2.8%), scholarships/prizes ($n = 11$, 1.9%), new employment opportunities ($n = 5$, 0.8%), and e-mails containing incomprehensible text ($n = 8$, 1.4%).

Table 2. Publishers sending the most frequent invitations and their presence on Beall's list

Publisher	Frequency, <i>n</i> = 156 overall (% of total)	Publisher on Beall's list?	Number of journal issues by each publisher	Mean number of articles published in each journal
OMICS Publishing Group	28 (17.9%)	yes	700	79
Openventio Publishers	16 (10.2%)	yes	40	15
Remedy Publications	12 (7.6%)	yes	22	23
Austin Publishing Group	10 (6.4%)	yes	195	16
Peertechz	10 (6.4%)	yes	99	3
SciDoc Publishers	8 (5.1%)	yes	47	15
Imed Pub	5 (3.2%)	yes	6	40
JSciMed Central	5 (3.2%)	yes	147	33
SciEdu Press	4 (2.6%)	yes	30	196
Herald Scholarly	4 (2.6%)	yes	60	6
Matthews International ^a	3 (1.9%)	no	—	—
Bentham Open	3 (1.9%)	yes	61	151
Avid Science ^b	3 (1.9%)	yes	60	2

^aNo platform available for this information.

^bFormat is based on book chapters and not journals.

Abbreviations: —, no data.

Characteristics of Spam E-mails from Predatory Journals

Of the e-mails received, 191 were categorized as being invitations to submit manuscripts to presumed predatory journals. These invitations were received from 156 different journals from 33 different publishers. The publishers most frequently sending invitations are shown in Table 2. All of these publishers were listed by Beall (excluding Matthews International). The frequency breakdown of invitations received from journals was as follows: 3 times (3 journals), 2 times (25 journals), 1 time (132 journals). The majority of publishers ($n = 27$, 81.8%) and journals ($n = 91$, 58.3%) were cited in Beall's list. The number of journals issued by each of these publishers was found from the publisher's website. This ranged from 6 for Imed Pub to 700 for OMICS Publishing Group. We then looked at the mean number of articles published in all of the journals from each of these publishers. This ranged from 3 for Peertechz to 196 for SciEdu Press.

These predatory journal invitations were then broadly classified (Table 3). With respect to invitation relevance, in 65.4% ($n = 125$) of cases, the invitation subject matter was unrelated to the recipient's clinical and research interests. Journal invitations were frequently ($n = 139$, 72.7%) overly formal (e.g., "Dear Doctor X, we are honored to") and often ($n = 92$, 48.2%) used flattery about the recipient (e.g., "it's your eminence and reputation"). Of interest, despite these being unsolicited invitations, 39.3% ($n = 75$) of invitations informed the recipient that there was urgency required with the submission.

With respect to the invitation content and characteristics of the journal, journal names were frequently given a global "context," with 30.9% ($n = 59$) of journal titles including words such as "world" or "global." Most journals ($n = 148$, 77.5%) were biomedical in nature and nearly half ($n = 92$, 48.2%) said they were open access. However, only 52.4% ($n = 100$) provided full and verifiable contact information, including address, on the journal site. Interestingly, invitations were often sent from the same sender for multiple journals from the same publisher. For example, a "Kathy Flora" was responsible for sending

invitations for more than 7 journals published by the OMICS publishing group, or a total of 16 e-mails in the 3-month period studied.

When assessing the practicalities of the submission process, as described in the e-mail itself, the fact that the journal was peer-reviewed was mentioned in 34.0% ($n = 65$) of cases. However, in these 65 journals, the actual peer review process was only described in 21 (11.0%) cases. Interestingly, although 48% of journal e-mail invitations stated that the journal was open access, when we actually went to each of the 156 journal websites, 80% (126/156) of journals identified themselves as being open access. We are unsure as to the reason for this difference. Although 7.9% of journal invitations cited a submission fee, details on actual costs were rarely present. Analysis of the websites of the 13 publishers in Table 2 showed the average price of processing fees was \$983 (range \$225–\$1,800).

DISCUSSION

The rapid expansion of electronic access to health care and biomedical research has had many positive effects on patient care. Members of clinical health care teams are able to gain access to the latest updates in terms of medical care and research findings and are able to communicate and respond to each other's questions in a far more time-sensitive manner than ever before. However, with this innovation has also come the rapid influx of spam e-mails. The costs and consequences of spam are generally known, but for the practicing physician, the question of whether spam is simply annoying, requiring time to read and delete, or whether it represents a more serious concern remains [1, 3, 11]. Although predatory journal invitation spam has been previously described, it has not been well studied within the oncology setting [12]. The current study confirms that despite the presence of institutional firewalls, spam invites are common, as the recipient received 578 unsolicited e-mails over a 3-month period. Of all these, invitations to predatory journals accounted for 33.0% of all the spam received.

Table 3. Characteristics of e-mails received from predatory journals

Characteristics	<i>n</i> = 191 (% of total)	Comments/examples
Invitation tone and relevance		
Overly formal salutation?	139 (72.8%)	“Dear Doctor X, we are honored to . . .,” “Dear Doctor X, we hope to find you in good health”
Flattery used?	92 (48.2%)	“Your contribution is valuable to us,” “it’s your eminence and reputation,” “as you are an eminent scientist”)
Mention of urgency in responding to the invitation?	75 (39.3%)	“We urge you to answer before the . . .”
Was the grammatical content of the e-mail flawed?	67 (35.1%)	Awkward sentence structure, spelling mistakes, incorrect name of recipient, and punctuation errors
Citation of the recipient’s actual work included in invitation?	19 (9.9%)	—
Journal’s area of interest unrelated to oncology?	125 (65.4%)	Journals ranged from medical journals to architecture and arts journals.
Invitation content and characteristics of the journal		
Was the invitation from a biomedical journal?	148 (77.5%)	—
Did the invitation include an unsubscribe mechanism?	109 (57.0%)	—
Does the publisher provide full, verifiable contact information, including address, on the journal site?	100 (52.4%)	—
Does the journal’s e-mail invitation state that the journal is open access?	92 (48.2%)	—
Does the journal’s website state that the journal is open access?	126 (80%)	—
Does the journal’s name infer connotations of global context?	59 (30.9%)	e.g., adjectives such as “world,” “global,” and “international”
Does the name of a particular sender appear recurrently amongst the collection of received invitations?	18 (9.4%)	The same person could send e-mails from up to seven different journals from the same publisher.
Practicalities of the submission process		
Was the submission process described in the invitation?	21 (11.0%)	—
Was peer review mentioned?	84 (44.0%)	Of 65 journals citing peer review, 19 mentioned that review was expedited and 21 described the review process.
Was a “submission fee” cited?	15 (7.9%)	—

In addition to the usual issues around unsolicited spam, such as wasting recipient time, predatory journal invitations can result in a potentially more sinister outcome. With these journals, there is the risk that investigators may be tempted, or coerced, into submitting their articles. This is problematic, as many of these journals are not indexed and thus the work is unlikely to be read or used. This wastes the time spent by the researchers on their study but also reduces the efficiency of funder monies and the time of any participating patients. Globally, the current reward system in biomedicine, including for promotion, tenure, and in some cases pay, is still geared toward quantity rather than quality. A paradox is thereby created wherein there is a need to publish more at a time of increasing cutbacks in research budgets [8]. This pressure is compounded by the appropriately high rejection rates at many journals.

Thus, receiving a “personalized” highly flattering invitation to submit a manuscript to a journal or to present your “prestigious” research at a conference could be very tempting [5].

This study is not without limitations. Predatory journals are challenging to identify. Here, we used Beall’s list [9] to classify journal invitation. Beall’s list is curated by a single individual; hence, maintenance of an up-to-date list is challenging. There have also been a number of journals that have challenged Beall as to whether they should be considered “predatory.” This study of spam is also based on the experience of a single researcher, who had to decide for himself what he perceived as unsolicited e-mails. The extent to which these findings are generalizable, particularly to early career researchers or those outside of oncology, is therefore unknown. In addition, as we did not summate all of the e-mails received, we do not know what

proportion of all e-mails were spam. In a study of seven oncologists, we recently found that 18.2% of all e-mails received were spam [13].

CONCLUSION

Unsolicited spam appears to be pervasive for those working in the area of oncology. Strategies are needed to minimize this so that physicians spend less time cleaning their inbox and more time attending to those areas of practice that actually benefit patients. In addition, physicians need to be made aware of the

presence of predatory journals, know how to recognize these, and understand the negative consequences resulting from “publishing” in these outlets. Funders and institutions may benefit from developing specific policies against “publishing” in predatory journals, as work in these outlets is not likely to add positively to biomedical knowledge or increase their impact.

DISCLOSURES

The authors indicated no financial relationships.

REFERENCES

1. Rao JM, Reiley DH. The economics of spam. *J Econ Perspect* 2012;26:87–110.
2. Moher D, Srivastava A. You are invited to submit. *BMC Med* 2015;13:180.
3. Nash Networks Inc. Strangling the Internet: Why Spam Matters and What It Costs 2009. Available at <http://www.nashnetworks.ca/why-spam-matters-and-what-it-costs.htm>. Accessed August 15, 2016.
4. Mazzarello S, Fralick M, Clemons M. A simple approach for eliminating spam. *Curr Oncol* 2016;23:e75–e76.
5. Butler D. Investigating journals: The dark side of publishing. *Nature* 2013;495:433–435.
6. Moher D, Moher E. Stop predatory publishers Now: Act collaboratively. *Ann Intern Med* 2016;164:616–617.
7. Jacobs C, Joy AA, Clemons M et al. Training the trainer: Five practical considerations for your first five years in practice. *Curr Oncol* 2016;23:71–73.
8. Mazzarello S, Clemons M, Jacobs C et al. Publishing clinical research: Ten pearls for oncology trainees and junior oncologists. *Curr Oncol* 2015;22:e1–e5.
9. Beall J. Scholarly Open Access. Beall’s List of Predatory Open-Access Publishers 2016. Available at <http://ottawacitizen.com/news/local-news/worlds-main-list-of-science-predators-vanishes-with-no-warning>. Accessed August 15, 2016.
10. Beall J. Scholarly Open Access: Critical analysis of scholarly open-access publishing. Available at scholarlyoa.com. Accessed August 15, 2016.
11. Communications TMOEaD. Cost of Spam is Flattening — Our 2009 Predictions 2009. Available at <http://email-museum.com/2009/01/28/cost-of-spam-is-flattening-our-0000-predictions/>. Accessed August 15, 2016.
12. Geynisman DM. E-mail anonymous: a physician’s addiction. *J Clin Oncol* 2015;33:285–286.
13. Clemons M, Joy AA, Hilton J, et al. Physician “out of office” alert: Does it work? *Curr Oncol* 2017 (in press).

Editor’s Note: Jeffrey Beall’s list of “Predatory Open-Access Publishers” referenced in [9] above is no longer available online. See the related commentary, “Too Many Journals,” by Susan Bates, on page 126 of this issue.