Assessing Journal Quality and Legitimacy:

An Investigation into the Experience and Views of Researchers and Intermediaries - with special reference to the Health Sector and Predatory Publishing.

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August 2020

Prefaratory Note

This study was commissioned by Cabells International from CIBER Research and as part of the agreement between the two parties it was agreed that an open version should be made available. There are a few differences between the two versions. Significant omissions include content which could be described as business critical and which mainly relates to comments on the selling of a planned service being prepared by the publisher in the health sector. Some Appendices have also been removed as their usefulness was dependent on explanation.

The terms "whitelist" and "blacklist" were commonly in use during the term of the study and are retained in the text, but it is important to note that Cabells are no longer using these terms. "Whitelist" has been replaced by Journalytics and "Blacklist" by Predatory Reports.

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Table of Contents

Appendices

Figures

Tables

Executive Summary

CIBER Research were tasked to investigate how researchers in the health domain went about selecting journals to publish their papers, what tools they used to help them and what their perceptions of new scholarly communications trends were, especially in regard to predatory journals. This was achieved through a mixture of questionnaire surveys and qualitative interviews, both of which were addressed at researchers themselves, and those who support their research, such as librarians and research managers. More broadly we also interviewed industry experts and players.

Separate surveys were compiled and disseminated to the two different audiences and interviews were held through a mixture of online, face to face and email exchanges. The investigation was global excluding North America and focussed on nominated target countries/regions including China, India, the Middle East (MENA) and North Europe. The surveys resulted in a total of 546 responses whilst 61 people were interviewed. We also undertook a substantial literature survey of the topic which is appended as a supplementary report.

We discovered that researchers are essentially self-sufficient in the way they go about journal selection, relying mostly on their own experience, although they will consult other researchers if needs be and use tools such as Web of Science and Scopus. Intermediaries were developing an increasing range of services to support researchers in their publishing endeavours, including training events and websites. They also provide databases, but in interviews were less supportive of those and more supportive of education and training. Librarians felt on the whole that researchers need to understand how to recognise predatory journals and that it was better to use the criteria explained in Think, Check, Submit. There is clear mismatch between what intermediaries say and what researchers do or believe.

Whitelists are common and serve multiple purposes including underpinning research evaluation processes and helping novice researchers. There also seemed to be an emerging genre of grey lists and also national whitelists, for national journals, either prepared by government or by individual universities. As to health whitelists, we could find no evidence of any in use and both researchers and intermediaries expressed a degree of support for one to be available – an average of 60% expressed interest at some level. However, intermediaries are unlikely to want to spend much on such a service. There were similar views on a blacklist, which was perceived as worthy, but perhaps not at any price.

As to predatory publishing it would still seem commonplace, and not just in the obvious undeveloped countries. It has spilled over into mainstream publishing, including potentially polluting repositories and citation indexes but there seems to have been little follow through by anyone; funders have not followed through even in very centralised countries like Turkey and in developed countries, with some exceptions, it seems to have been ignored. Many of our respondents, both researchers and intermediaries, know somebody who has published in a predatory journal, but none of the researchers would admit to doing so themselves. The

pressure to publish is particularly the case with candidates for doctorates who in most countries have not only to submit a thesis, but also a number of articles which varies from country to country or even university to university. There was a common feeling that publishing in predatory journals was the consequence if anything of a lack of awareness, though I some cases it was unethical researchers taking a risk.

We provide a profile of the major research countries, especially India and China and others such as Australia, Germany, Japan and Indonesia with whom there has been close contact and note the differences.

1. **Introduction**
This report represents the findings of an investigation undertaken by CIBER research into:
- the publishing activities of researchers in the health and medical disciplines (usually just referred to as Health), in particular seeking to find out how they decide where to publish -, what are their motivations and what tools they use to guide their decisions;
- how intermediaries in the scholarly publishing chain, such as librarians and research managers, support these researchers in their publishing efforts, what tools they provide in support and what are their views as to what factors steer researchers to publish as they do.

We had a special interest in predatory publishing[1] and how it has arisen and the part that it now plays in scholarly communications and, also, a more specific interest in whitelists (defined as a curated list of quality assured journals) of health journals. The investigation was undertaken as a response to an initial briefing presented to us by Cabells Ltd, a US based company who were seeking evidence to support their strategic development and marketing know-how. Cabells had a particular interest in discovering whether the needs of health and medical researchers and related disciples, such as pharmaceuticals, dentistry and nursing.

Moreover, the study was delimited with geographic criteria so that the focus was on the following regions: China, India, the Middle East (MENA), Europe (especially the north) and South East Asia although others including Australia, France and Italy were also addressed. The United States and Canada were excluded albeit in practical terms it was difficult so to do completely. Thus, one of the main challenges was that of reaching out effectively to the whole world with the concomitant problems of language, cultural and time differences. It was recognized at the outset that there would have to be limitations and one of those was that the whole project was conducted in English (which remains the central language of scholarly communication), which has perhaps limited the extent to which we could penetrate some countries and cultures.

2. **Methodology**
The investigation used a mixture of methods; a) an analytical literature survey to ground and provide context for the field work; b) two questionnaire surveys to provide quantitative evidence and c) interviews to provide qualitative evidence. Two key audiences were defined at the outset: firstly intermediaries: e.g. librarians (however titled), research

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[1] We have used the term, predatory, as being commonly accepted, whilst being aware of other terminology such as questionable, illegitimate, dark or deceptive.

managers and others providing support services, and secondly the researchers themselves as authors. In terms of scheduling the intermediaries were addressed first, followed by the researchers. And throughout the investigation we interviewed a third group including experts, industry commentators, publishers, consultants in publishing and subscription agents with expertise in particular target countries.

As to the 2 questionnaire surveys which were used; Survey 1 was aimed at the intermediaries and Survey 2 at researchers, with a focus on the health sector in both cases. Survey 1 was disseminated primarily through discussion lists and forums and social media whilst Survey 2 was mainly conducted through a bulk email of names of researchers known to have published in the health domain in English. The interviewees were derived from the surveys (there was an option to be selected for interview) and through our contacts. To a large extent the interviews took place concurrently with the Surveys.

At the close of the study, there were 260 responses to Survey 1, 286 to Survey 2 and we had interviewed, either face to face or by email, 61 people.

3. **Literature Review**

The literature of predatory publishing stretches back some years and is underpinned by previous research on the components of scholarly communication system dating back to the 60s or even earlier. Predatory, as a term and concept, emerged around 2012 with the key article of Jeffrey Beall (Beall, J 2012). Subsequently there has been a plethora of research papers – see Figure 1 - dealing with all aspects of predatory publishing and they continue to flow – even during the course of this study we have identified many new papers. A report based on this literature survey is to be published separately.
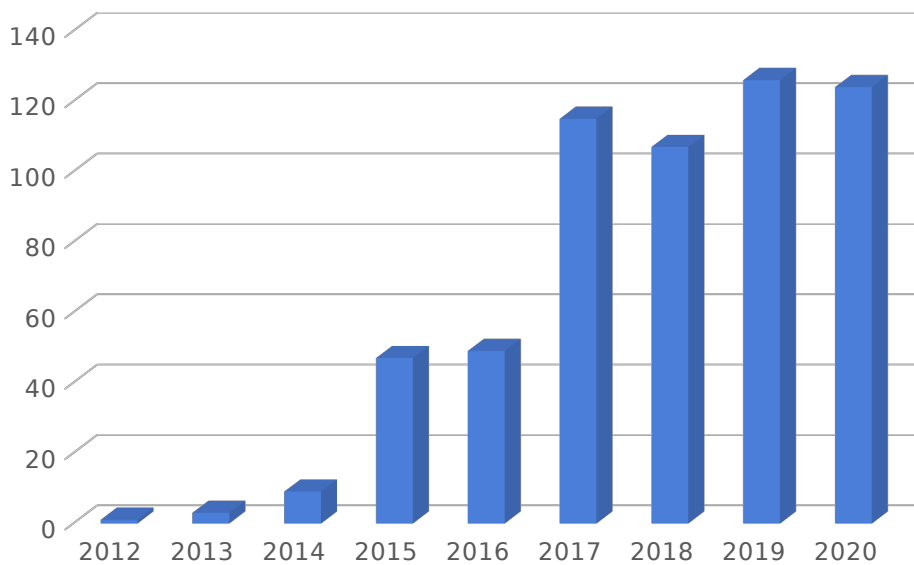
Figure 1 Articles on Predatory Publishing 2012 to 2020 (estimated). (Web of Science).

4. Survey 1 (The intermediaries)
4.1　　　Methodology

Survey 1 was disseminated by a mixture of methods, including posting a link on key library discussions lists and via links on lists of other organisations whom we contacted. For example, NHS (National Health Service), England were extremely helpful, and circulated the survey to all its constituent libraries and EAHIL[2] distributed to its Linkedin and Facebook sites. We also targeted medical library listings, both at the international and at country level; for example, Germany and Australia, and we contacted various research manager groups and were helped by them – an example would be the European Association of Research Managers[3] (EARMA) - the South African[4] and the South American[5] groups were also involved as were the overarching Inorms[6]. In some cases, we also addressed non -specialists as providing a generic overview inclusive of Health, given how some organisations are structured.   The consequence is that we are assured that we had responses from all the various perspectives, and both within Europe and globally. The survey was disseminated from February to May 2020 and received 260 (n=260) replies. In some ways, this was disappointing, given the level of dissemination. But it also coincided with the COVID pandemic and a

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[2] http://eahil.eu/

[3] https://www.earma.org/

[4] www.sarima.co.za

[5] http://www.bramabrazil.org/

[6] https://inorms.net/

number of the libraries in particular were in the process of change and relocation as a consequence, and found their patrons needed them more than usual. However, we believe the response overall is sufficient to provide meaningful data.

4.2. The Respondents

The survey (see Appendix I) began by asking about the respondents themselves - their origins, job and role. The wide geographic spread in the returns - there are responses as diverse as Afghanistan and Senegal - suggests that we succeeded in our quest for covering all of the target regions (excluding North America), albeit the consequence is that perhaps no results have sufficient detail on a given country to help in a targeted campaign. Nevertheless, the subsequent interviews and interactions more than compensated for this deficiency.
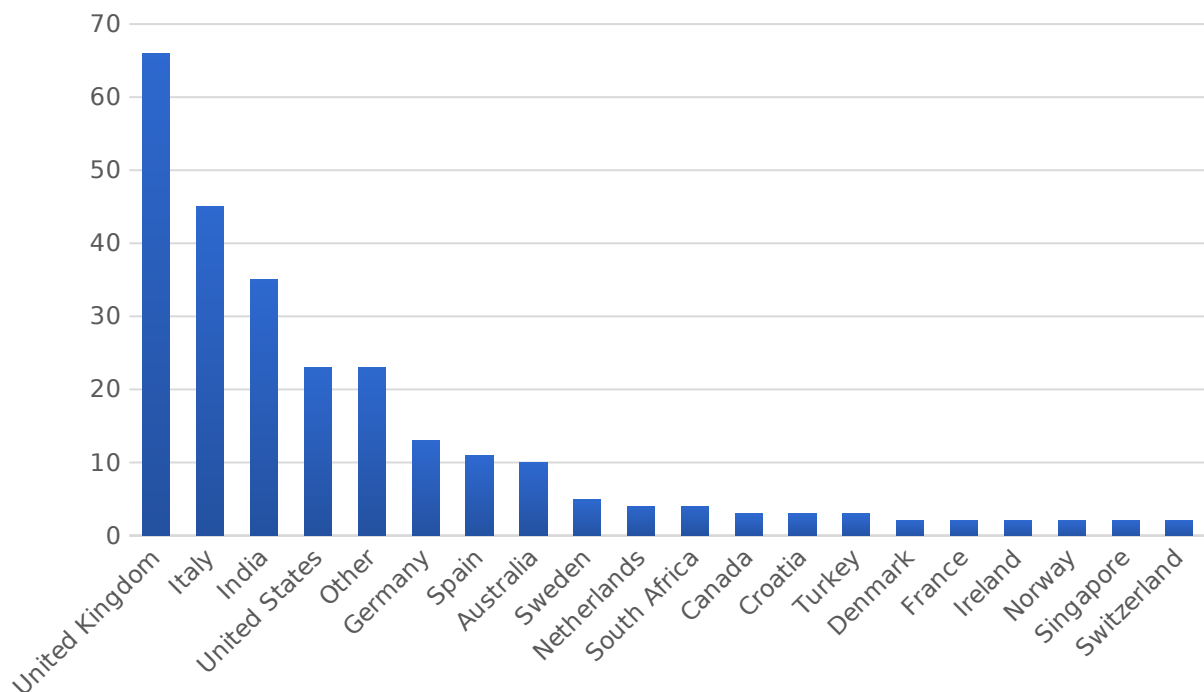
Figure 2 Survey 1 Geographic distribution of replies

Respondents also came from a wide variety of organisations, though predominantly from libraries (70%), and particularly health libraries (34%) (see Figure 3) and offered an equally diverse set of job titles (Figure 4). Indeed, these results are illustrative of a point we go into in more detail later and that is the changing nature of library structures and their staff (some 8% termed themselves information specialist or the like).
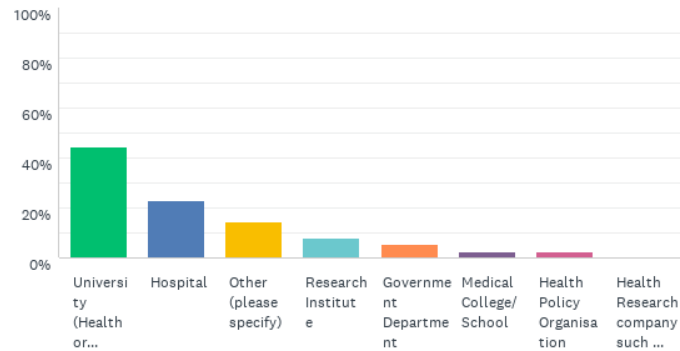
Figure 3 What kind of organisation best describes where you work?
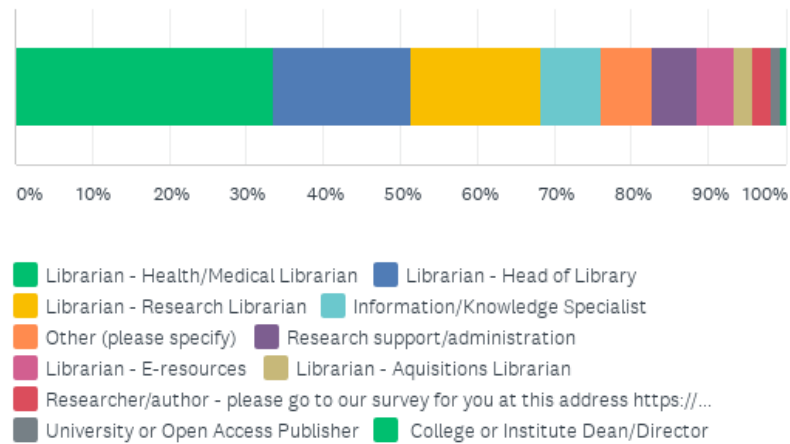
Figure 4 What is your Main Job role (Intermediaries)

Question 4 asked whether respondents had a subject expertise in their support role. The largest response was that of clinical or medical science at 48%, followed by public health at over 35%. A significant number (51) answered "Other" to this question and exhibited a wide range of disciplines some being health or health related topics such as psychology, environmental science or neurosciences though some (14) indicated relatively generic subjects such as Library Science, Management or Corporate Services.
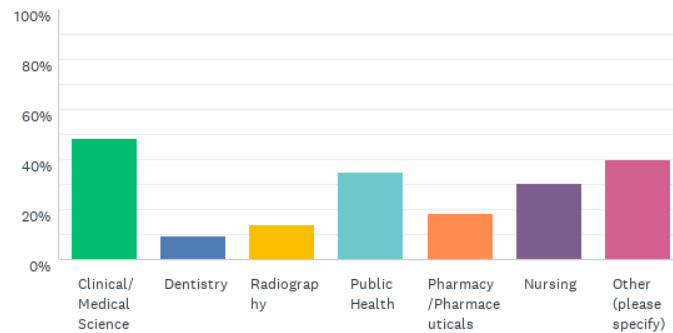
Figure 5 Do you have a particular area of expertise in your support role.

4.3 Supporting Researchers

Our next 4 questions asked about what support intermediaries provided that might help researchers in their journal article publishing. We furnished a list of supporting services such as translation, plagiarism checking, and machine matching of manuscripts and the majority selected Providing Access to Databases (61%) with training and workshops coming second (50%).
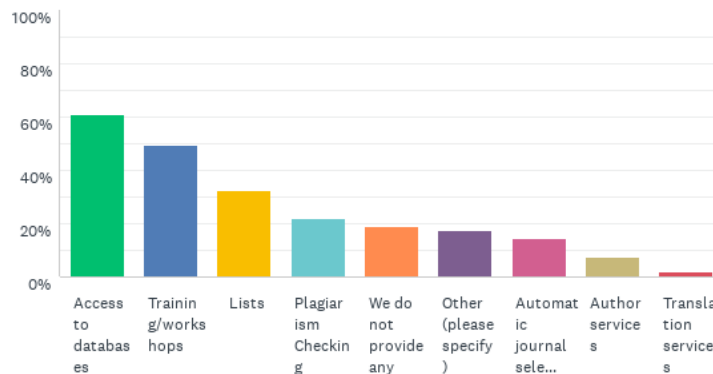
Figure 6 What sort of services do you provide to help researchers in publishing their articles.

Question 6 asked explicitly about the provision of databases such as Web of Science, Scopus and Cabells. All services were used to an extent but as to databases, Web of Science was the most prominent at 61% and is almost exactly matched by the DOAJ (61%) with Scopus a near third (53%). These services scored highly across all geographic regions and would thus seem to be established globally. Databases reported under the Other heading and which did not feature on the list provided in the question, were often local services e.g. the Italian journals list (ACNP

Italian libraries journal catalogue[7]) or the Turkey based DergiPark[8] and presumably these are of only local interest[9].
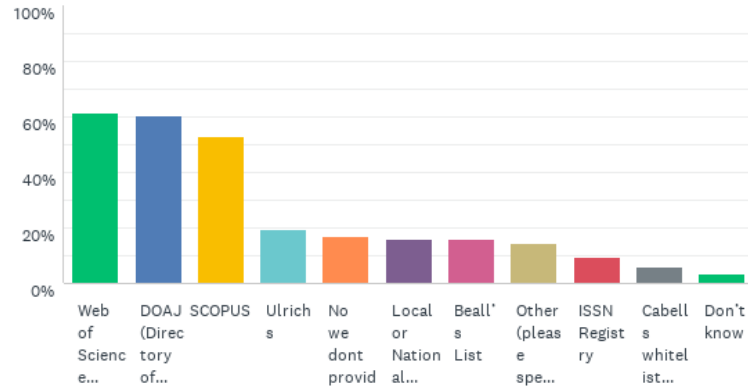
Figure 7 Do you currently provide access to services to your users which list journals.

Questions 7 asked intermediaries what factors they thought were important to their researchers in selecting a journal in which to publish. The most important was "Journal credibility" with 63% saying it was extremely important, followed by "A robust peer review system" with 57% saying it was extremely important. Of those considered of low importance, social media, scored lowest at just 3%. Bundling together the scores for both extremely important and very important also highlights the importance of indexing (75%), relevance of the title (73%) and impact factor (72%).

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[7] https://acnpsearch.unibo.it/

[8] https://www.neliti.com/dergipark

[9] Pubmed and Medline also emerged in our subsequent interviews but were rarely written in by the intermediaries
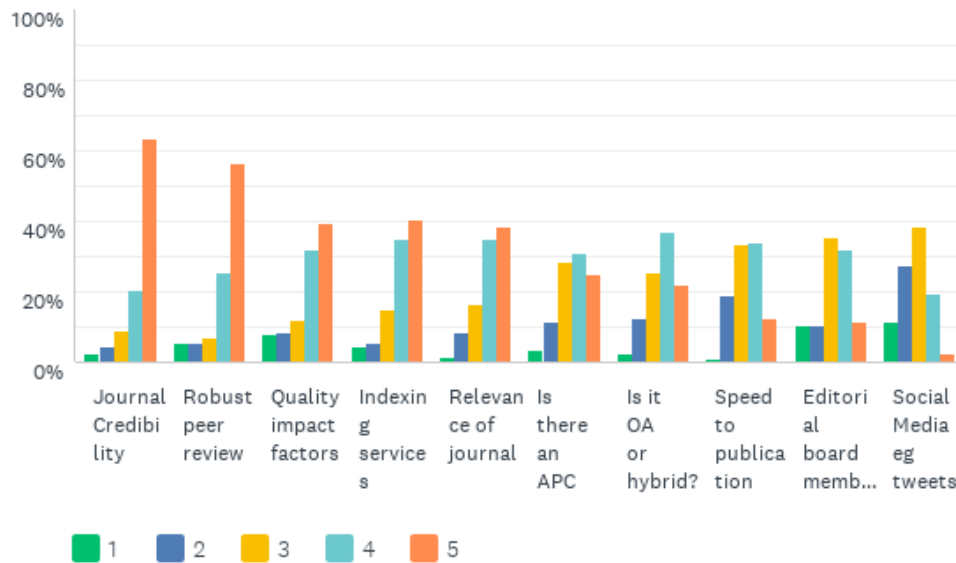
Figure 8 What factors do you think are important in selecting a journal

4.4 Whitelists

Question 9 asked directly about an interest in a quality assured list of journals in the health disciplines i.e. a health whitelist and 59% were either "very interested" or "interested" in this, although when asked about the cost, the few who did reply (there was a very low response rate), most said that they didn't know or wouldn't/couldn't say. For the majority of our respondents (over 70%), purchasing is not their decision (see Figure 11).
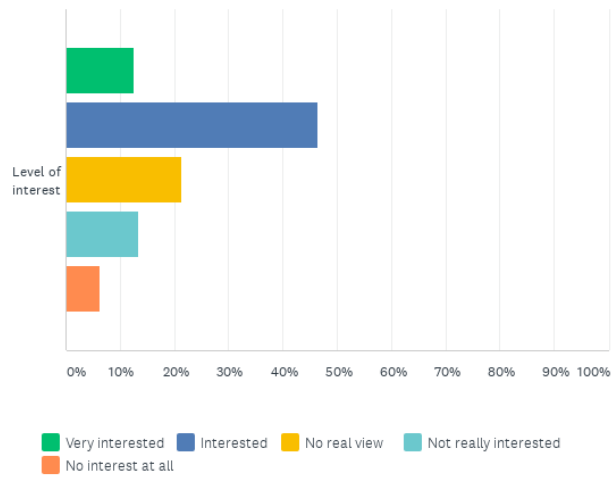
Figure 9 Would a curated list of quality assured journals … be something you might subscribe to?
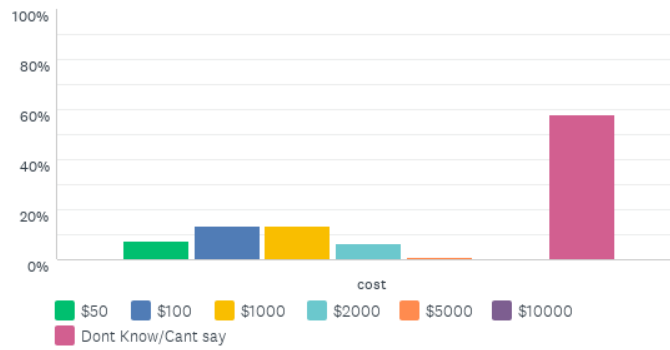
Figure 10 What do you think would be a reasonable price
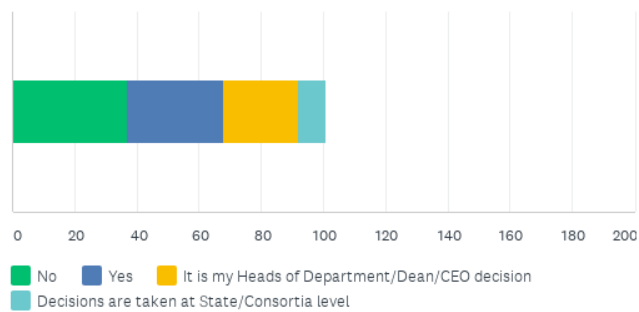
Figure 11 Do you have the responsibility to make such decisions

4.5 Predatory Journals

We were interested in how predatory journals were being dealt with by intermediaries and so asked a series of questions on this topic. Firstly, we were wanted to know about respondents' views as to the threat to the credibility of research outputs (Figure 12). The results showed that pressure to publish was a bigger factor than publishing in predatory journals.
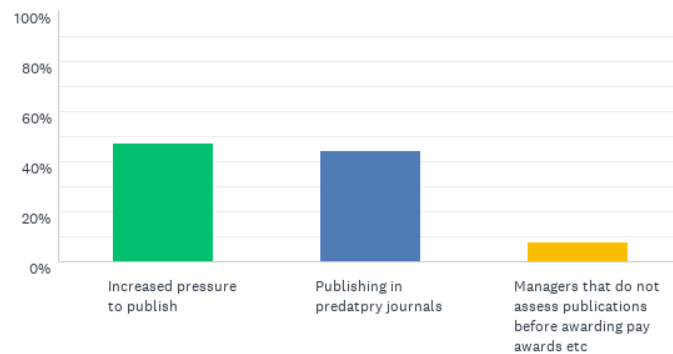
Figure 12 Which is the greatest threat to credibility?

Question 14 furnished a list of services that could be provided to researchers to help in dealing with predatory journals and high among the tools mentioned were those relating to advice and education such as Think, Check, Submit with some 48%, followed equally by training sessions and guides and websites. The promotion of lists scored relatively low at 22% about the same percentage as the No/Don't Knows.

Figure 13 Do you provide advice on predatory journals

Finally, we asked (Q17) about the existence of predatory publishing from an intermediary perspective and here respondents agreed that it did

exist in their organisations; thus nearly half (49%) said they knew someone in their organisation who had published in a predatory journals, which we suggest is a high percentage.
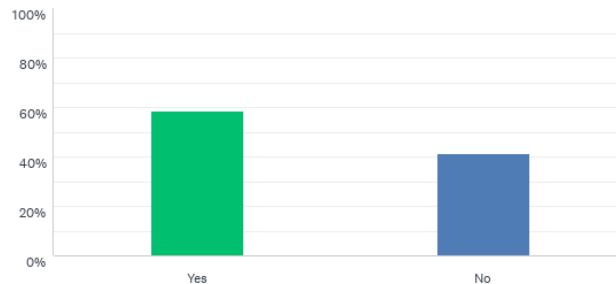
Figure 14 Are you personally aware of researchers who have published in predatory journals.

As to why this should be, the main reason advanced was "they are unaware that journals are predatory" (72% said so). This was followed by "They need to get published quickly" (40%) and "They need to get published for promotion" (39%).
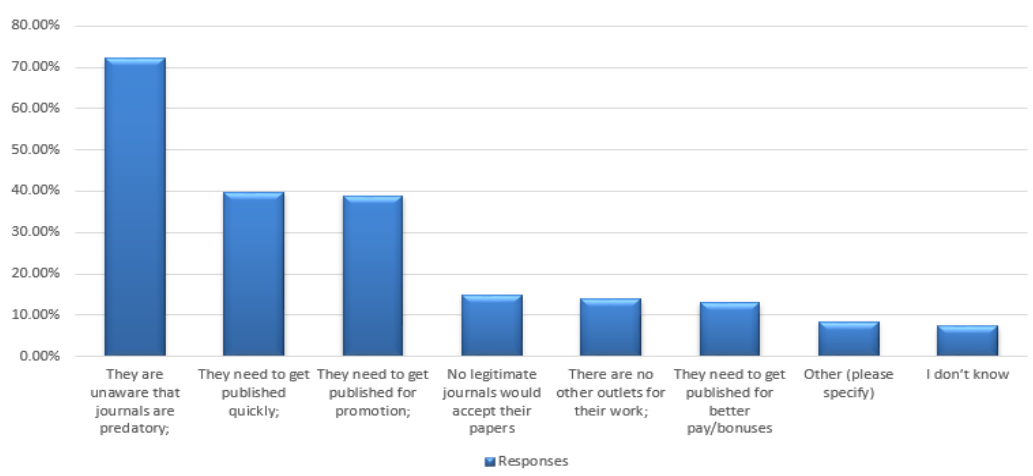
Figure 15 Why do researchers publish in predatory journals

5.Survey 2 (The Researchers)
5.1   Methodology

Survey 2 was directed at Health researchers and authors and provided a more detailed set of questions than Survey 1. However, they covered the

same ground as Survey 1 so that some comparisons could be made. Survey 2 is presented in the report's Appendix II.

We tackled the dissemination of Survey 2 in a different way, largely because there is simply not the preponderance of email discussion lists that characterize the library and research manager professions. There are relatively few lists we could identify which supported researchers and publishers were reluctant to send out invited to their authors. Therefore, we compiled a data set of 30,000 email addresses from a corpus of 170,000 documents in the relevant disciplines. The list was de-duplicated resulting in a final set of over 29,000 unique emails. We bulk emailed the survey to this list over a period of four to six weeks, resulting in a response rate of circa 1% at the point of the publication of the final report. Again, given the COVID-19 problems, which obviously impacted the health research community, it is probably not an unreasonable response.

Country/ Region	Records	% of total	% of replies
PEOPLES R CHINA	25119	14.44	4.55%
UK minus NI	18821	12.46	14.77%
AUSTRALIA	14297	8.22	3.79%
INDIA	8904	5.12	6.44%
GERMANY	8879	5.10	1.89%
ITALY	8332	4.79	7.58%
BRAZIL	7368	4.24	1.89%
SPAIN	6746	3.88	4.55%
NETHERLANDS	6480	3.73	1.14%
SOUTH KOREA	6424	3.69	0.38%
JAPAN	6364	3.66	1.89%
IRAN	5884	3.38	0.38%
FRANCE	5821	3.35	1.89%
SWEDEN	4991	2.87	1.14%
TURKEY	4504	2.59	3.03%
SWITZERLAND	3582	2.06	0.76%

TAIWAN	3400	1.95	0.38%
POLAND	3250	1.87	0.76%
DENMARK	3153	1.81	1.52%
SOUTH AFRICA	3043	1.75	3.79%
PAKISTAN	3003	1.73	1.52%
BELGIUM	2996	1.72	0.00%
NORWAY	2879	1.66	0.00%

Table 1 Numbers of records for each country with percentage of total and percentages of replies.

Table 1 shows a country analysis of the record set together with the percentage level of replies from each country. It suggests inter alia that the level of response from China was poor - probably because of the language barrier, but also because of cultural factors, for instance responding to email questionnaires is not necessarily the Chinese way. This was subsequently confirmed in discussions with one of our experts, who confirmed that the Chinese prefer WeChat above and beyond email - they use it as their preferred method of obtaining user input. The articles we retrieved and upon which our lists were based, were also published in English, and that may well not be their strong suit.

As with Survey 1, though the response rate was relatively low it was sufficient (n=286) to provide meaningful views on the questions we asked, although not all responded to all questions. (They were advised to skip any questions that they did not feel appropriate). It was perhaps disappointing that relatively few proposed themselves for interview.

5.2 The Respondents to Survey 2

We asked similar questions to those asked of the intermediaries, except that it was more orientated towards their own personal experience of publishing articles, and their perceptions of predatory publishing. We began by asking them about who they were and what they did and again there were similarities with the intermediaries' research in that they came from an extraordinary wide array of countries. The majority were from the UK (15%) followed by Italy at 8% whilst a significant number (5%) were from China. It is hard to be specific as to why we received such a good response from Italy, except perhaps our contacts were especially helpful.
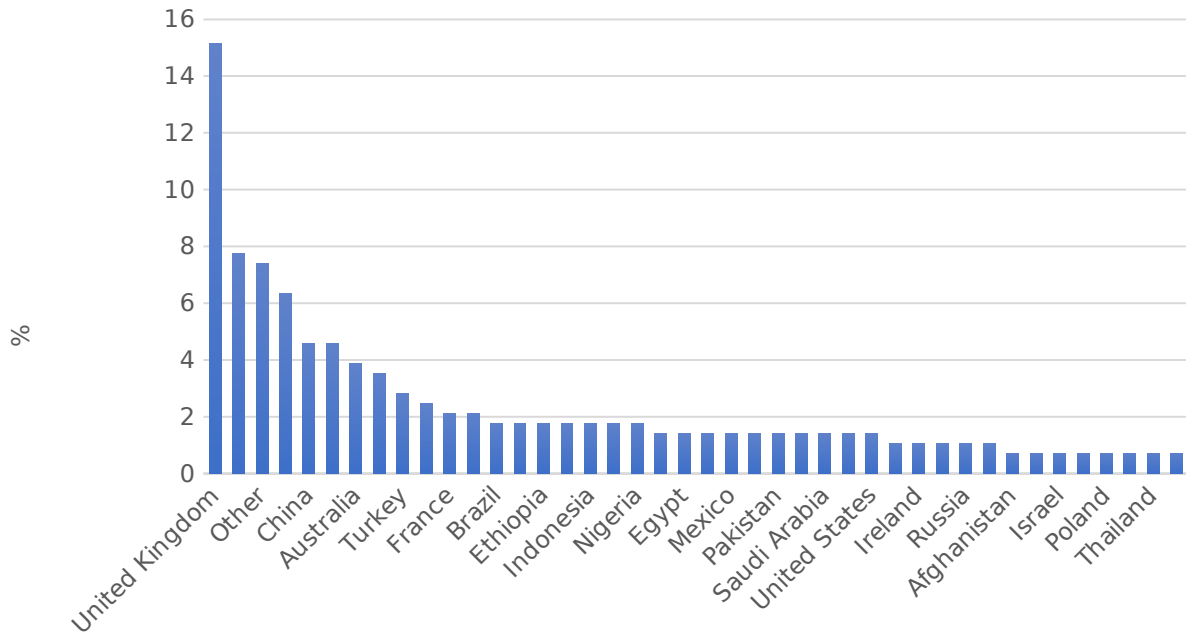
Figure 16 Country of Respondent

As to job roles, by far and away the majority (74%) were researchers, or academics, probably at a middle level or early career – in that we provided opportunities for senior academics to identify as such and only 8.3% did so. There were a number of replies to the "Other" category but mostly, these were narrow definitions of the more generic ones provided. So, for example, one defined themselves as a Psychiatrist and another as an orthopedic surgeon. There were a number of PhD students and a number of retirees.
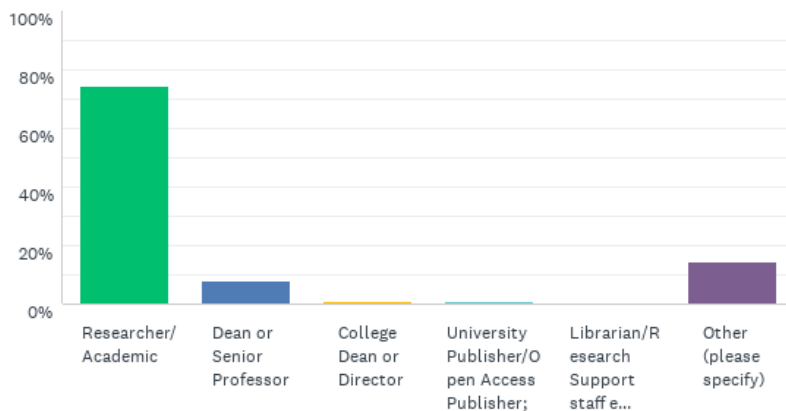
Figure 17 What is your job role?

In answer to the question "Where do you work?", just over 50% were specifically based within a University Health faculty, which was

understandable, as that was the group that was targeted (see Figure 8). And indeed, a majority of the rest were largely based in medical schools (9%) or hospitals (11%), presumably within research functions. Again, there were a significant number of "Other" answers, which covered a range of different kinds of institutions; and many who were also University based, but just not in health faculties. This may have been the consequence of the researcher dataset we compiled, but it would appear that health related research also happens in different disciplines including for example, engineering, chemistry, agriculture, and so on. And nursing, public health and "allied health" is sometimes seen as part of social sciences rather than medicine. This was confirmed by some of the librarians we interviewed. Some respondents were based within different types of Research Institute's whilst others were independent consultants.
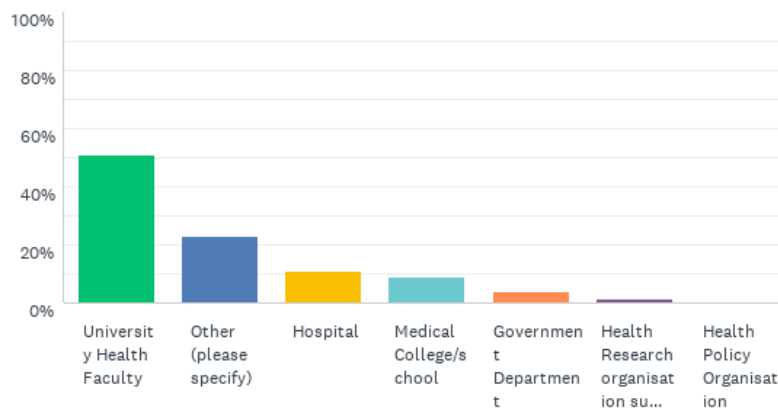
Figure 18   What organisation do you work in?

Addressing their field of expertise, two categories accounted for the bulk of replies (over 60%), clinical medical sciences and public health. In fact, the largest response to this question was the "Other" category, which again provided a very wide range, from epidemiology to biostatistics, social research, physiology animal and veterinary sciences, forensics, chemistry, and so on. Again, these results relate to the definition of the researcher data set defined in Section 5.1.
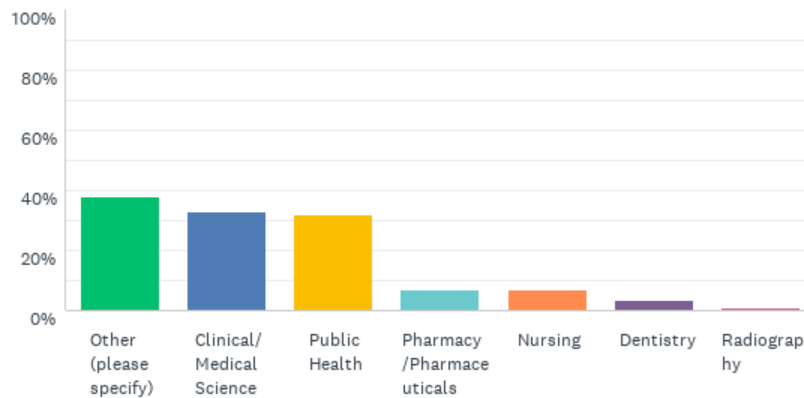
Figure 19 What is your field of expertise?

5.3   Websites and Social Media

Question 6 asked which websites are most helpful in improving publishing effectiveness. In fact, a majority of respondents (54%) skipped this question. But those who answered, provided upwards of 200 responses. Most common, as one might imagine, are major discovery systems, such as Scopus and Web of Science. Pub Med is frequently named (14% chose it as their first site) and should probably properly have featured in the list of databases proffered. There are one or two more specialist services, which are unknown to the authors, and which are probably prominent in specific countries.

5.4   Publishing Research Articles

We asked about publishing research articles and what factors drove decisions. The most prominent factor was that researchers rely on their own knowledge of the journals available in their field. This could be commensurate with the possibility that we were dealing with relatively experienced self-contained individuals, perhaps not senior, but with good standing and knowledge of their discipline. So, 88% of the respondents felt that that this factor was either "Very important", or "Extremely important". Secondly, they relied on past experience and thirdly, but not so significantly (31%), on databases that listed journals. Conversely, there was a very strong reaction against asking librarians for help. Indeed, asking anybody including administrators for help seemed out of line. Thus 81% said asking librarians was of no or little importance, perhaps a feature of our disintermediated times. There was some interest in and use of tools which automatically identify suitable titles. There was little use of, or enthusiasm for, using author services (about 2%) again possibly because we were dealing with researchers in

24

developed research organisations confident in their command of the English language.
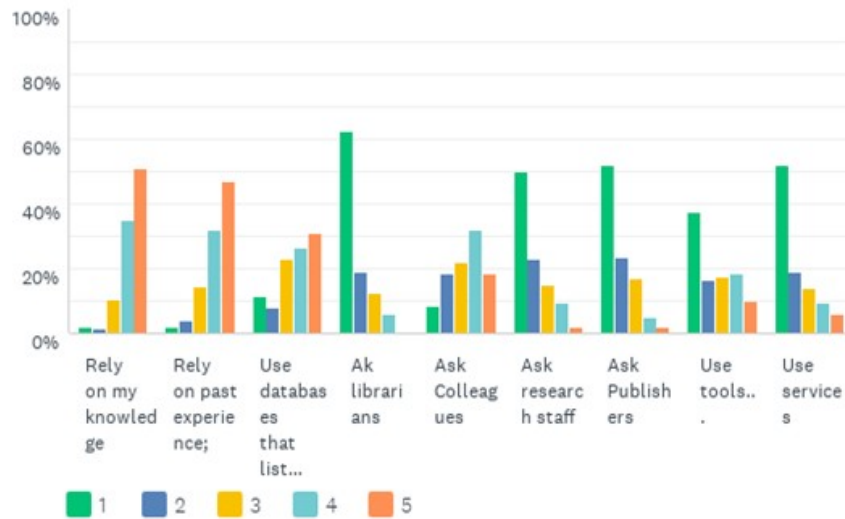
Figure 20 How researchers go about publishing and what methods are important (where 1 is Not at all important and 5 is Extremely important).

Question 9 asked more directly about factors which researchers thought important in selecting a journal in which to publish. The key factor was felt to be whether a journal had the requisite credibility with over 80% saying this was "very important" or "extremely important". It was closely followed by having good quality impact factors/citation metrics (Figure 9) and thirdly, though very close at 60% was that there was a good match between the manuscript, and the journal in terms of topic or audience. Of least interest was whether the journal is compliant with an organizational or government's funding policy.
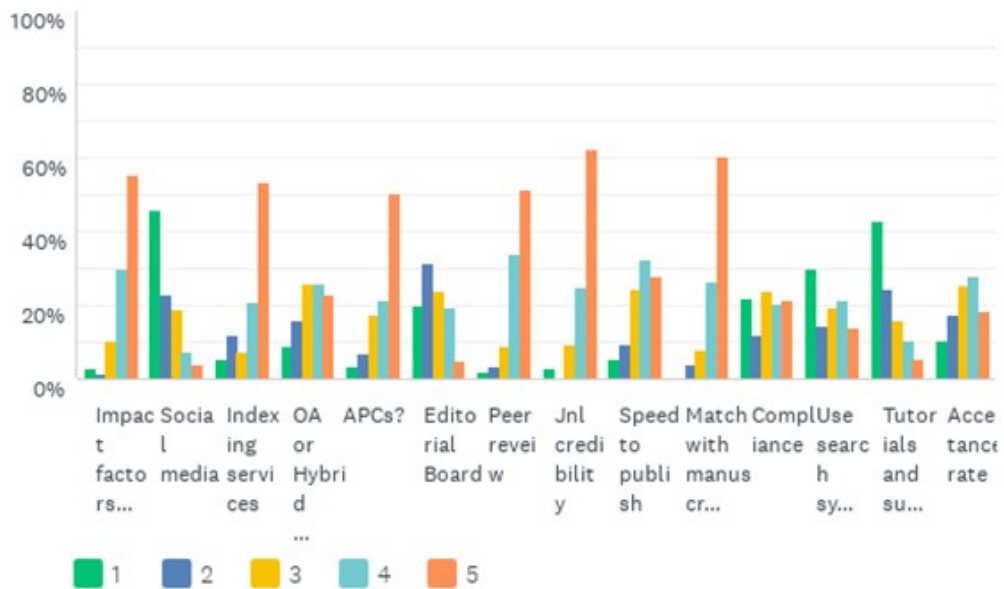
Figure 21 What factors are important in selecting a journal in which to publish (where 1 is Not at all important and 5 is Extremely important).

A question was asked about which database services - that list journals- researchers use to select an appropriate title for their work. Again, researchers were asked to score from Not Important to Extremely Important and the only databases to score high were Scopus and Web of Science, both of which scored approximately 64% on the total of "Very" or "Extremely important". None of the others were that significant; except that it is worth noting that Beall's list is still widely used.

Figure 22 Use of services which list journals (where 1 is Not Important and 5 is extremely important)

5.5　　Health Whitelists

Question 11 asked whether a health whitelist i.e. a curated list of quality assured journals in health and medical science would be an effective use of their organisations or libraries budget. The results were that 30% scored "Somewhat effective", 25% as "Effective" and 8%, as "Most effective" i.e. 63% of the respondents said that a health whitelist may well be effective (use of the budget).
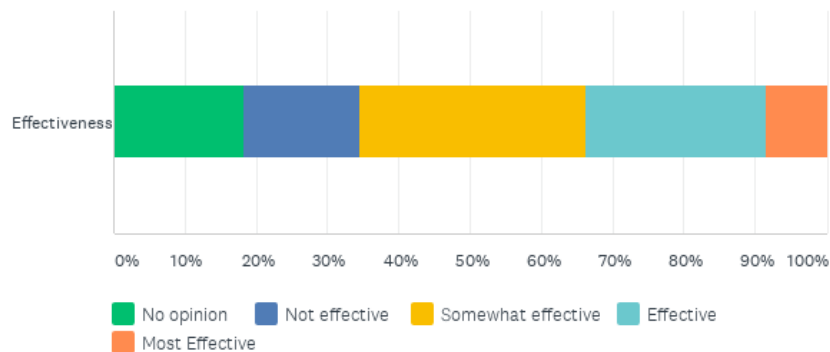
Figure 23 Would a curated list be an effective use of resources

We were interested as to whether researchers had other views on the problems of research publishing and thus, Question 12 was an open question for free text answers and Appendix III provides those is in a

summary fashion. Some of the more common concerns were the difficulties that developing countries had in getting access to Western, English language journals, the cost barriers from high APCs (again developing countries and perhaps others as well found it difficult to get access to funds) "*Sometimes I feel that researchers from middle Europe are being discriminated against*". "*The main problem is the high publishing rate that we have to pay - the fee to publish (*in a*) journal is always my first choice (*i.e. concern*) as we have a very low budget for publishing*". There was also the accusation of discrimination and poor practice "*For example, at times where you get manuscript rejection from a journal without the editors given any reason*". "*Sometimes I feel that researchers from middle Europe are being discriminated against*".

5.6 Researchers and Research Management

In Question 13, we asked about the existence of a Research Management office, and two thirds of respondents said they had one. We asked whether staff in the research management office, were helpful in writing and editing papers, and for the majority this was "not applicable", and even for those who did reply, there was disagreement with the statement, indeed, only a small percentage (7%) agreed that the research office had been helpful.
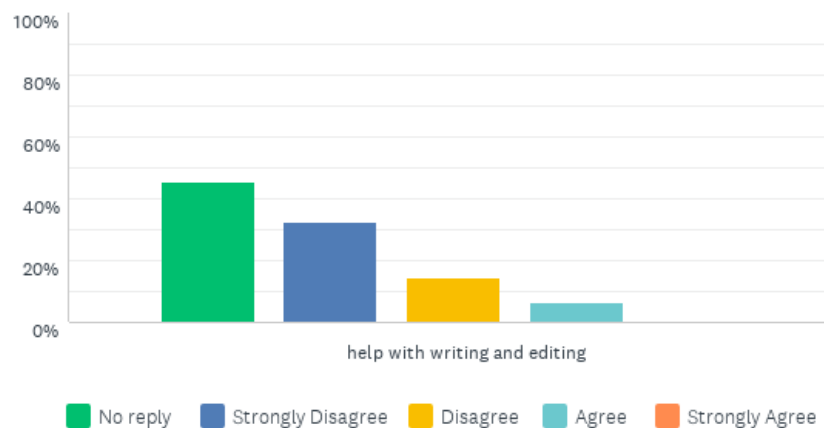
Figure 24 Have people in the research management office have been helpful in writing and editing my papers before submitting to a journal?

We also asked about publishing in journals which were listed in directories or whitelists, and the extent to which that might improve chances of receiving reward in terms of a pay rise or promotion, and the response here was to "Agree" or "Strongly Agree" with that statement, a total of nearly 64%.
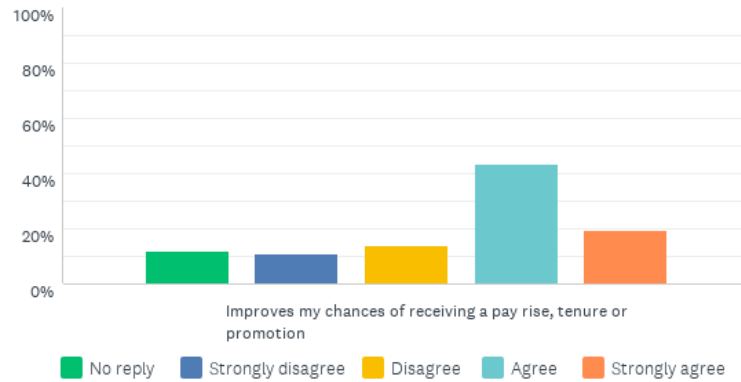
Figure 25 Publishing in academic journals listed in directories or whitelists improves my chances or receiving a pay rise, tenure or promotion.

In the final two questions of this Section we sought to understand the extent to which researchers might be involved in purchasing a database and so asked whether they had requested librarians to purchase a database to support their research. Just over 70% said, "*No, never*" although the remainder presumably had, to some extent or another. As to which database they might ask to be purchased, they particularly highlighted any that would make it easy to select a journal that will publish their manuscript and have greatest impact (Figure 26), though over 30% agreed that publishing in quality journals makes a patient's life better.
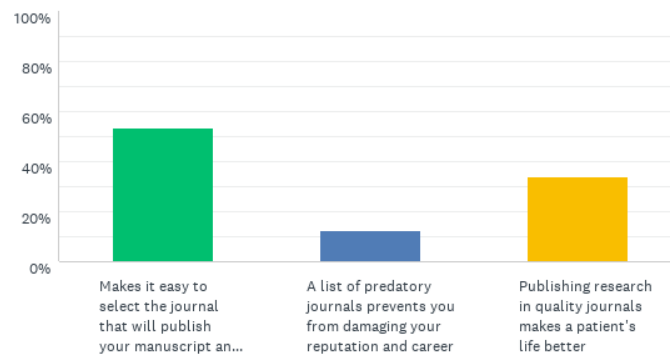
Figure 26 Which statement best describes a publication or database on academic journals that you would request the library to purchase?

5.7   Publishing in Predatory Journals

We asked about services or tools that provide support and guidance in order to avoid publishing in predatory publishing, and whether or not they had used such tools (Figure 27).

Almost half said they did not use any tools, confirming what we learned in Question 9, and of the other factors "guides and websites" was the most prominent at 34%. Some had clearly attended training and there was some use (21%) of whitelists and blacklists.

In Question 20, we asked directly "Are you personally aware of researchers who have published in predatory journals" and the response was fairly evenly split - in that 53% said No and 47% said Yes. They also judged predatory publishing to be around 4 out of 10 on a scale measuring between rare and commonplace i.e. it indicates that a significant minority of people publish in predatory journals and it is reasonably part of the terrain.
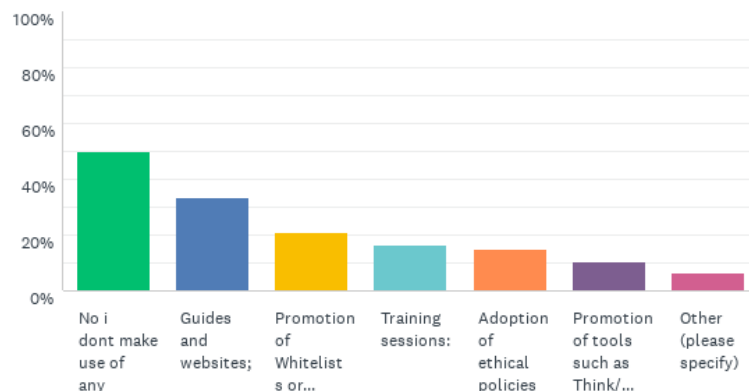
Figure 27 Which of the following services/tools that provide support or guidance on predatory journals have you attended or used?

Asked about why researchers publish in such journals (Figure 28), the majority of respondents felt that authors were unaware that they are doing this (73%), followed closely (and importantly) by the need to get published for promotion or tenure (59%) and thirdly, but almost equally the need to get published quickly (58%). There was quite a feeling that researchers may be lured by emails (50%). In fact, all the possible reasons scored at least 20%. There were also comments, including one from a less advantaged university academic, who felt that the lack of native English might make them fall for emails and another who argued that, given that some predatory journals might want to move to a more

correct model and having better papers may help it along this road. So, a researcher may try to help them make their way.
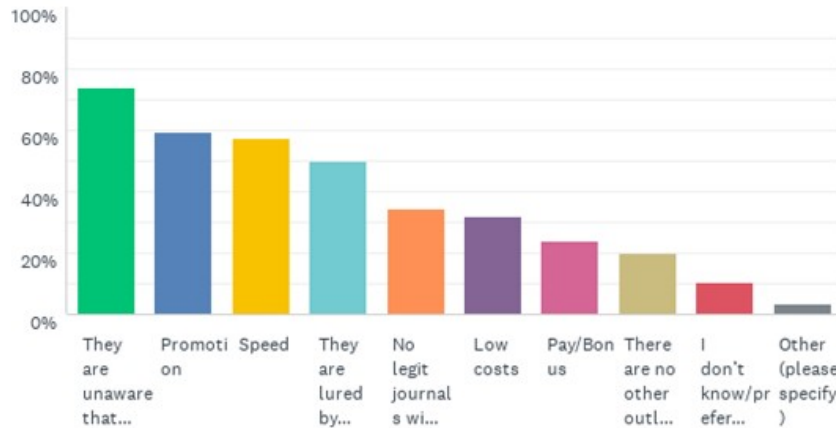
Figure 28 Why do you think researchers publish in predatory journals

Question 23 asked about the potential loss of credibility in the published research of an organisation as a result of its staff publishing in predatory publications and nearly three quarters (71%) agreed that that might be the case (Figure 29). So, this is clearly an issue. But as to how it might be dealt with (Figure 30), the majority (81%) felt that it should be through an increased awareness of the characteristics of predatory journals or, secondly, through providing access to a database of journals that are identified as predatory (64%). Understandably perhaps, there was little support for a formal reprimand.
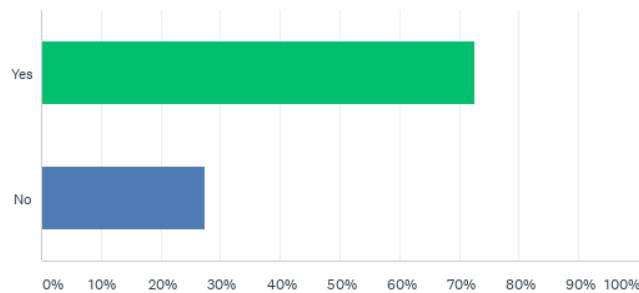
Figure 29 Publishing in predatory journals might lead to the loss of credibility in the published research of your organisation or university. Do you think there is a danger of a loss of credibility in your organisation?
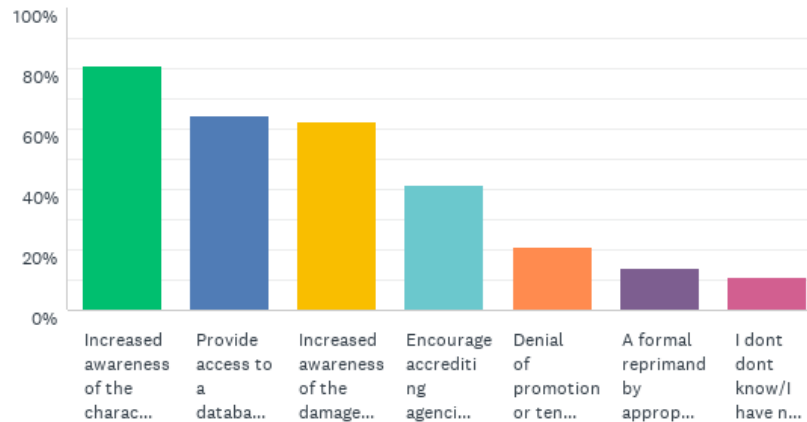
Figure 30 If so, how do you think that should that be dealt with?

Finally, we asked for written additional comments about predatory publishing, and received only a small number (13), although they were extensive and interesting (Appendix IV). For example, "*I find that although predatory journals are expensive. My colleagues from Africa frequently published in these journals, as there is still an attitude of publish or perish. And they're evaluated by administrators who do not have a knowledge of the nature of the journal*" and "*The pressure on researchers to publish is an indicator of management deficits, particularly when no local support is provided for researchers*", or "*Publishing in their own field, management over emphasizes competitive grant seeking - does little to develop researchers, or publishing skills*".

6. Qualitative (Interview) Evidence

To provide context and explanation for the data obtained through the questionnaire surveys we also sought further evidence from interviews with selected individuals identified either through the surveys or who were contacts of ours in various parts of the world including CIBER Associates. Altogether we undertook over 60 interviews with a variety of professionals from various parts of the world; these could be classified as below (Table 2), although some people straddled more than one category. There is a full list in Appendix VII of all those who were happy to be named. By and large the interviews followed the themes of the questionnaire surveys (a template was provided) though going into more detail where appropriate. The interviewees were a mixture of:

- Researchers in health-related disciplines – some of long-standing experience and other early career researchers;
- librarians, mostly senior or middle ranking, straddling central service administration and subject e.g. Health roles.
- Research managers and similar support people;

- Experts in scholarly communications known to us and able to talk with authority on trends;
- Publishers – some of whom were instrumental in bringing e.g. editorial teams together;
- Consultants in publishing;
- Digital subscriptions agents with deep knowledge of geographical regions and markets.

For the latter four groups, interviews were focussed on what the interviewee could bring to the research and did not follow any special pattern. The results were written up and from these records we have selected several major themes which are reported below and, where appropriate, we also reflect on how they match the data of the surveys

Agent	7
Consultant/Expert	5
Librarian	23
Publisher	10
Research Manager	6
Researcher	9
Total	60

Table 2 List of interviewees and categories

7. Themes
7.1   Research Management

One of the factors we sought to investigate was the extent to which the Research Management function and Research Management staff were involved in advising, or otherwise supporting research academics in their publishing endeavours. It must be said at the outset that both our surveys and our interviews showed that not all universities, even including major research universities, necessarily have a research management office, although a lot did. It is sometimes left to local teams or faculties to undertake this function, even at the level of each individual project undertaking any research management that is required. Indeed, we were told that historically, Research Management Offices seem to have been largely concerned with pre award functions - that is alerting research colleagues to funding opportunities that might be available, to securing projects and assisting in budget estimates. Additionally, where there is a research reporting function to be fulfilled, such as corporate research evaluation, that will fall centrally to the research office (in the UK it is the usually the remit of the Research

Office to respond to the UK Research Council's REF process). Our evidence suggests that there are changes in the research function, such that it is becoming enlarged and expanded in its remit albeit, as we have said, that is only the case where a research office already exists. They are adopting a mixture of other related functions, such as post award support: ensuring the delivery and of research outputs, assisting with publications, providing ethical and policy frameworks for research and so on. And research assessments have become more significant as the competition for research income and positions in league tables has become more intense. We spoke to several research managers in the UK and elsewhere and these themes were exemplified in various ways.

We were also interested in the relationships between Research Offices and Libraries. Our interviewees assured us this was often a positive co-existence, even in some cases resulting in joint teams, albeit that in any matters bibliographic or related to content, the research managers would defer to library services, if they're not working closely with them. None we spoke to saw content as their remit - as one commentator put to us, "*research managers are concerned with tools and processes while content is inevitably left to the library*". Research offices do of course have budgets, albeit they may not be that large and may already be earmarked for the research outputs, to which they are committed. We also found that whilst some research managers had responsibility for APCs. in other cases, such funds were devolved to departments or simply did not exist. But other than that, their spending power would seem to be limited and not directed at content.

7.2   Libraries

Libraries have been changing for many years now as they go through the same digital transition faced by all occupations. The emergence of E journals soon after 2000 drove a whole number of changes in structure and procurement, which are continuing today. See for example the Ithaka report of 2019 on strategic directions[10]. It would also seem that there has been a need for increasing levels of economy, certainly in many of the libraries we spoke to there has been a drive towards economies of scale in the procurement of resources and the systems to manage those. The implication is that whilst at one point individual libraries contained within a library system, such as college libraries in a University, would have relatively high levels of autonomy and purchasing power, this has now largely gone; so that many of the medical libraries we addressed are essentially being run out of a main library or central team. Indeed, Medical Colleges themselves have now merged into Universities in many,

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[10] https://sr.ithaka.org/publications/ithaka-sr-us-library-survey-2019/

if not most countries and have similarly merged their support services such as Finance or Human Resources. The central library teams are thus more prominent though that in turn brings problems: as one interviewee told us " *whilst the centre has perhaps become more powerful, they have also had to be, you know, careful, in ensuring that they involve the majority of stakeholders in the decisions that they make*" . And as to purchasing, we heard that "*committees were in place to deal with most important purchases*" whilst in another, a business case was needed for anything new, such as a database. The medical college librarians were somewhat relegated to the role of purchasing ad hoc individual titles or textbooks or making recommendations for the occasional new journal title; otherwise, selection was dealt with centrally.

As an example of this shift we were told by a librarian at a Dutch University Medical College that the separate library of the Medical College was to be closed following a pattern of all Dutch universities where the librarian had been moved to a more central function, dealing with collections across the system. Similarly, it was reported that Sheffield University previously had a Medical College Library and Librarian but now had a relatively lower level role concerned with keeping the physical Library open and providing training and support for local staff whilst procurement was centralised into one of the core central teams. The staff on the ground in the medical library might suggest a book or a title or a new serial, but those would be passed to the centre for action, whilst e journal deals were managed at a national level as is the procurement of databases such as Web of Science or Scopus.

Another feature of library central service was the establishment, especially, but not exclusively, in the UK, of very clearly focused individuals or teams to deal with the research function, so called Research Support librarians, or, increasingly, Scholarly Communication teams or Schol Comms. These emerging teams have an explicit function to help the research process and the researchers themselves. They seem largely to perform an advocacy or training type role as much as anything and are not necessarily involved in significant procurement; indeed, many did not have a budget per se, but at the same time they have become very influential. Thus, they will work with the research office on research evaluation and research evaluation exercises. In amongst the several functions they might perform, we found the following were commonly mentioned.

a) Training and support to research staff on bibliographies and bibliometrics;

b) Setting up policies and strategies to manage the institutional repository (not necessarily the hardware or even its procurement but ensuring the proper population of the repository with quality resources). Again, this would tie into the research evaluation exercises;

c) Publishing - such as the university press, (which generally now is focused on open access and provides an alternative means of disseminating the university outputs);

d) Helping researchers with their digital profiles, ensuring they are correct and providing provide the best possible view of their expertise;

e) Research data management or data science more generally;

Schol Comms teams also work closely with Research Managers. For example, one librarian we spoke to, who is Head of an Office for Scholarly Communication, had an unusual structure whereby she has two line-managers: The Director of Research and Enterprise and the Director of Information Services. Her role is varied, ranging from helping academics with dissemination plans and publishing choices, to helping with research policy (including compliance with the Leiden manifesto). She also provides training workshops for research staff and co works with the research excellence team. One of her staff provides support in terms of impact factors and similar metrics whilst responsibility for research evaluation submission lies (initially) with departmental teams. They also provide training across the whole University and workshops etc for staff via the website. She also said that they do not provide any special tools to support publishing; they encourage good process rather than any specific services.

Another major UK based university described their structure whereby the library-based research support team comprises several functions including:

- The open access team (who also manage APCs and ensure that outputs are deposited into the institutional repository); they also manage theses and a smaller team deals with the REF including policy and compliance.
- A research data team which coordinates with a network of data champions;
- A training outreach function whose role is to co-ordinate engagement functions that produce newsletters website content etc as well as provide training for the researchers.

Such structures would seem relatively typical of library research support and scholarly communications teams to be found in research intensive universities. We also came across different and sometimes unusual

functions such as a legal function covering issues such as copyright and licensing at the Technical University of Denmark.

7.3 Assisting Researchers

There were some specific examples of tools and services which were of interest; certainly, Think Check Submit was known about and deployed whilst one University who are very active in data management, highlighted sessions that they ran on data management plans using a specific software package called DMPOnline[11].

Universities and institutions that were less research oriented still provided some help to researchers, but it was more limited; so that librarians would deal with queries on an ad-hoc basis. For example, the head librarian of a hospital library told us that she would advise junior doctors a few times a year on their publishing output – "*they might have been rejected by their favourite journal but would come to me for advice on alternatives*". She makes recommendations based on impact factors and that the title was a good match. She has access to tools such as Web of Science and recommends DOAJ. Another example would be the Royal Pharmaceutical library who told us that they simply do not have the wherewithal to provide any extensive advisory offer. Though the RPS was unusual this ad-hoc level of service was probably more common across all types of libraries than otherwise.

7.4   Pharmaceutical Information

We found it difficult to track down pharmaceutical librarians or information managers/information scientists, largely because libraries within pharmaceutical companies have long gone. However, there is still a grouping of pharmaceutical information experts which is known as the PDR or Pharmaceutical Documentation Ring[12] . In their manifesto they explain their remit, which is indicative as to what information managers in pharmaceuticals now do: "Our combined curiosity and knowledge have led us to explore diverse topics such as:

- Artificial Intelligence & Machine Learning
- Big Data
- Data driven licensing models
- Digital Transformation
- Semantic Technologies
- Text and Data Mining"

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[11] https://dmponline.dcc.ac.uk/ https://DMP

[12] https://p-d-r.com/

There are about 20 companies, including all the major pharma companies, and they share non-competitive information including access to resources.

There is a second grouping which is of relevance, as a point of contact if nothing else. This is the Open Pharma[13] initiative, which states: "Many groups are discussing the future of scientific publishing but, so far, the pharmaceutical industry has provided limited input into the discussions. With half of all biomedical research funding coming from industry, and with substantial issues of trust and transparency still to be addressed, our group thinks not only that industry should be involved in the discussions but also that it should help to drive change". It has membership from the key pharma players though members speak for themselves.

We also spoke to one individual, who wished to remain anonymous, who was an information specialist in a major international R&D pharmaceutical company. Her specific job title was External Information Lead and her role was larger than just about ensuring the provision of databases and related tools. For example, she also managed clinical trials data and news and competitor information and had an attachment to the computational scientist team, responsible for making data public for data mining. She believes her role is becoming more data focused though they still subscribe to traditional databases such as ejournals. However, her role did not explicitly include dealing with, or advising anyone within the organisation on, publishing apart from providing the usual mixture of databases including Web of Science and Scopus.

Publishing in the pharmaceutical world seems to be rather different from elsewhere; indeed, for one thing there are significant controls in place, and it is not a matter that a given individual can simply publish in whatever journal they feel inclined towards. Publishing is thus very controlled and structured - in this company there is a scientific publishing group who deal with publishing issues and have processes in place which ensure that whatever is published is legitimate and they control its level of confidentiality and availability.

We also interviewed a consultant in Health Sciences Communications whose role is that of helping in publishing and documenting of evidence-based health information. His organisation works for the top 10 UK companies; they also have offices in Switzerland. Many such organisations deploy external experts or communication experts in that their research publication processes are structurally somewhat different to the university sector. We were advised by another publisher that there is a distinction between medical communications people concerned with

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[13] https://openpharma.blog/category/open-access/

promoting drug treatments and medical publishers dealing with scholarly research outputs.

Despite these differences, the consultant's view was that you could still see the need for a health whitelist which would be of interest to Heads of Publishing/Medical Communication and people running clinical trials, all of whom are concerned with the public aspect of pharmaceutical publications. He also pointed us towards another organisation – the Medical Publishing Insights and Practices[14] (MPIP) initiative, which was founded by members of the pharmaceutical industry and medical publishing publication professionals to establish integrity in reporting the results of industry sponsored research. Its membership also seems to include all the major pharmaceutical companies and participation from representatives of many of the key medical journals.

In summary pharmaceutical information is a key area but there is very little, at least recently, documented about it and it has a slightly unusual approach to publishing its outputs. It has potential for deeper research or discussions in order to progress it. What is true is that many of the companies involved are large-scale international businesses, and as such would conceivably buy services on a global basis though we have no real evidence to support that.

7.5   Whitelists and Blacklists

One of the key issues for this investigation has been the provision and desirability of so-called Whitelists and Blacklists. We have defined a whitelist in the survey questionnaire as "a curated list of quality assured titles" whilst a Blacklist could be described as the converse, that is a list of journals which are questionable as to their quality and business practices as defined by a set of published criteria. We are aware that there is a level of criticism of these terms (just as there is with the term predatory publishing) however at the time of writing there are no easy alternatives and these terms have wide acceptance and are understood the world over, even in non-English speaking countries close.

7.5.1 Whitelists

As to whitelists, there is perhaps, on balance, support in both the surveys (in that 65% of researchers and 59% of intermediaries agreed that a health whitelist would be of interest). However the interviewees views were more mixed: thus one hospital librarian stated her main interest "*would be in the provision of a blacklist rather than a whitelist*" and another argued "*whitelists are of value but I have no budget to pay for one*" The scholarly communications librarians seemed uniform in their

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[14] https://www.ismpp.org/

antipathy to lists " *The main strategy is to teach people to evaluate for themselves*".   This is not to say it was all negative, or totally contradicting the surveys; one Dutch interviewee expressed strong interest in buying a whitelist and an existing Danish user of Cabells products was making innovative use of the whitelist and blacklist "*he explained that they particularly use those titles which have been relegated from the whitelist – but are not on the blacklist - at an intermediate level*".

We also found that the existence of whitelists currently to be surprisingly high – surprising to us perhaps - because they are little used in the UK though we found at least one librarian who spoke of the use of the ABS list of 4-star journals. There were also instances of people compiling their own whitelists, using Pubmed or Web of Science, for example. We were told by one librarian that clinicians tend to publish in the journals of their respective professional associations – in effect a whitelist.

Thus, many countries we spoke to including Turkey, Poland, South Africa, India etc cited the use of a whitelist at state level. These are often run in tandem with research evaluation exercises and combine international publications with local journals (where the locally published were in minority languages for example). Whitelists were also graded, for example, A1 A2 B1 B2 C1 C2 etc where A1 would be a top International Journal and C2 a local journal. These lists provide guidance to potential authors as to what they should aim at, and what they might expect as a consequence i.e. a recognition that there was not just one level of acceptance but a grading system of quality and standing appropriate to the different kinds of publications that exist.

 Some of these whitelists are established at university level or at discipline level and all, including those at state level list, are essentially determined by Senior academics with professional standing. In some cases, they are issued routinely but, in many cases, not very often and indeed, in some cases, seemed to become defunct (Australia for example) but nevertheless people continued to use them.

Most of these lists seem to have been established and promulgated to support national research evaluation exercises., so that publishing in a whitelist journal becomes a prerequisite if you wish to bid for or receive state research funding. For example, that is the position in China, where we understand they are currently developing a blacklist with which all universities will be expected to comply. However, also in China. whitelists are still the prerogative of universities to be formulated locally by academic committees. India has similarities in that they have expressed interest in procuring a central blacklist but like others they have a long-standing whitelist - the UGC-CARE list to which researchers

should adhere if they wish to receive government research funding. Many of these lists derive directly from Web of Science or Scopus and drive mechanistic formulae for research funds.

It also seems very likely that some of these whitelists are specific to health or clinical/medical disciplines though we did not come across many instances of that. But given that whitelists underpin research evaluation it would be unlikely were such lists not to exist. The only health related example we came across was a German list[15] focussing on biomedical journals, but which seems to have been compiled from DOAJ in any event.

7.5.2 Blacklists

The Cabells Blacklist of predatory journals would seem to be the remaining list of this sort available worldwide, the only others being, in effect, continuations of Beall's list, maintained through crowdsourcing. We could find little evidence of any other state or local blacklists albeit some countries were proposing such lists, in particular, and importantly both China and India have expressed intentions either to develop a publicly available Blacklist (China) – or to buy into a list (India). Turkey is also planning to develop one. In all cases a blacklist will link to their research evaluation processes. That they don't currently exist might be firstly, because libraries at al are happy with the current tools that are available such as Web of Science or DOAJ and use these effectively as whitelists thus obviating the need for a Blacklist. Thus, several libraries talked about steering prospective authors towards these tools as a way of ensuring some degree of quality, though we are aware that Scopus for example contains journals which might be labelled as questionable by, for example Cabells. Secondly, and perhaps more importantly, those involved in Scholarly Communications and other librarians, take the view that lists are not the solution; given the need for constant maintenance and predatory publishers attempting to bypass them, there will always be journals published which on the surface appear reputable but are not. The preference of many of the librarians to whom we spoke is an educational process using tools such a Think Check Submit to obviate the need for lists. For example, one University Librarian argued that she doesn't believe in a blacklist as the way forward in that "*in the end they are dependent on the criteria that are used and who then decides those criteria; for example, some young journals could be excluded as a consequence*". She promotes Think Check Submit.

7.6. Predatory Publishing

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[15] https://www.bihealth.org/de/forschung/quest-center/services/positive-list-open-access-journals/

The literature review noted in Section 2 will provide a comprehensive review as to the current state of play with predatory publishing as described in the published literature and will be published within a subsequent paper. The evidence we have gathered through our interviews and the surveys reflects that description accurately, in that it seems clear that there continues to be a significant level of publishing in predatory journals taking place, perhaps most prominently in the developing countries, rather more so than the West. Indeed, most western countries do not perceive it as being a significant problem for them, although there is some acknowledgement that the high levels of questionable or poor-quality publishing elsewhere, may have effectively polluted their own scientific output.

Predatory has its origins over a decade ago and represents the confluence of a number of contributing factors. These are:

- the considerable pressure to publish brought about by the expansion of the research base in a number of developing countries and the consequent need for individuals to publish in order to progress in their career or indeed even maintain their position. This in turn might be coupled with tight deadlines meaning that authors need swift publication – something which traditional peer review is unable to provide;
- qualification systems which encourage or indeed demand published outputs in refereed or peer reviewed journals, so as to achieve qualification;
- the ease of establishing a publishing operation brought about by emerging technologies and open source software such as the open journal system. This implies relatively low startup costs, which can be matched even by individuals with low levels of capital;
- The emergence of the open access business model means that transactions are at the level of individuals, for relatively low amounts of money, which implies less control and a wider market; they effectively bypass libraries or other or research offices with a lack of any degree of control or audit;
- Managers and supervisors who have effectively turned a blind eye to known poor quality publishing, for whatever reason, perhaps to ensure the success of those for whom they are responsible or a simple lack of expertise;
- A lack of publishing infrastructure in some, probably a few, countries, so that there's insufficient capacity to meet the demands of the Academy in its publishing needs.

Though we have not talked directly to anyone who would admit to publishing in a predatory journal our research suggests that those who do, do so mainly out of a lack of understanding or appreciation. This

registered highest in any of our factors in our survey. It was backed up by interviews with academics, who argued that (young and inexperienced) researchers in particular are lured into publishing in predatory journals given that they have become very good at exhibiting a cloak of respectability. However, it has to be said that they exist and continue to exist because they fulfill a need. As one commentator put it "*predatory journals exist because they offer a solution to problems an academic feels they have e.g. speed of publication at a relatively low cost*". Moreover, to many, scholarly publishing is something of a mystery and it is hard to blame them for being on the outside. Thus, one expert argued "*researchers in low-and-middle income countries struggle to publish in high quality journals, the pressure to publish forces them to publish low-quality research in low-quality journals*".

All of this is not to say that nothing is being done about it. Both India and China, two of the major players in predatory publishing, are in the process of changing their educational systems and policies. India has established new requirements for its PhDs and China is both seeking greater quality rather than quantity in its research outputs, and funding more English language research journals. And though we haven't investigated is in greater detail, there seem to be similar indications from, for example, some African countries. (See Kenya, where predatory publishing has been endemic). It may be that these initiatives will significantly reduce the amount of predatory publishing in place. And conceivably in parallel these concerns conceivably will drive those predatory publishers who are on the cusp of legality to meet international standards of publication. The research librarians we spoke to, and others were also convinced that the solution to predatory lies in better education and hence, a proliferation of courses and web training and so on, and initiatives like Think Check, Submit, all of which are designed to enable individual academics to recognize where quality in a published journal. Whether all of this taken together, will reduce the level of predatory publishing is perhaps a moot point but our perception is that it is may have plateaued. And whilst new titles continue to emerge some of these are no doubt essentially resurrections of existing failed journals from the same players, in an attempt to disguise their origins. We know that predatory publishers are not above moving their businesses to other countries or using other means to gain respectability such as hijacking titles. And whilst predatory publishing seems to have emerged largely from the developing world and younger researchers rather than the most experienced, there is equally a number of Western academics and scholars who have also been caught. And even if that is not at a high level, many Western universities have also assimilated students from elsewhere in the world who bring with them the baggage

of predatory articles; so, it is not possible to say that any given university has not in one way or another been tainted by predatory publishing.

8. Country Analysis

At the outset we were asked to focus on certain geographic regions and specific countries (and not to deal with North America). This we have achieved through both the targeting of the surveys (especially Survey 2) and through our identification and selection of interviewees. This has enabled us to identify specific country level trends in scholarly communication, in intermediary support for that and issues such as the extent of predatory publishing and how it is being addressed. Thus, this section provides a deeper country analysis, as we have been able to identify it through our interviews, literature searching and by more detailed analysis of the survey data.

8.1   China

China is significant in Scholarly Communications given its rise through the research rankings over the recent past, and the concomitant growth in research publishing. In our defined area of Health Sciences (see Section 3), in 2019, China based authors constituted about 11% of all authors of English language articles in Web of Science i.e. Chinese researchers who contributed to a given journal article as an author, an increase from 4.4% in 2009. This expansion has possibly strained their systems and infrastructure to a great extent; as one expert put it "*there is no mature research culture*". There is also competition for position and qualifications which drives researchers to get papers out quickly whilst it is arguable there has there not been the publishing capacity to deal with that.

During the investigation itself we became aware of the announcement by the China Association of Science and Technology (CAST) of new policies (Ministry of Education, PRC. (2020) [16] concerning where Chinese researchers should publish their work, and which follow a drive (CAST. (2019) to launch new journal titles - some of which will be true Chinese journals whilst others will be published in English (historically most Chinese English language have been co- published with the West; the drive now is for those to be brought back into China). These new policies were issued in February (though they were some time in their formulation) and most commentators suggest they will change the behaviour in STM publishing in China although quite how remains a point of debate[17]. The policies will limit the output of any individual researcher to no more than 5 papers per year where the state will

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[16] https://www.scholarlyassessmentreports.org/articles/10.29024/sar.15/

subsidize publication – and researchers will need to fund anything beyond that themselves. Chinese universities have now been asked to respond to these policy changes and those responses are underway. A likely result is that the number of articles submissions to international journals will remain about the same, but the poorer quality and predatory journals will probably suffer as a consequence. Thus, if a researcher has only the funding for 5 APC articles a year, they are likely to be careful how they use it.

We also learned that the State is moving towards producing a blacklist and also what they have termed an Early Warning List, whilst whitelists are and will remain the responsibility of universities and institutes and developed through local committees[18]. Thus, one of our experts said: "*More attention is being paid to the potential for predatory publishing and this includes the emergence of Blacklists and Whitelists, which are government sponsored. However, there is not just one there are many 10 or 20 or 50 different (white)lists in place*". And another "*There is a need for blacklists, whitelists and grey (early warning) lists. Whitelists are the responsibility of universities and institutes through local committees. Everyone has their own, while blacklists are government led*". From a Cabells' perspective, there may be opportunities but it will involve working with State organisations and/or Universities; thus a further quote was "*there is potential for Cabells, for example at national level, in terms of helping with the whitelist and blacklist - you have to start somewhere; there has to be a base, but it would need to be changed to meet their requirements*".

The other key development is the move towards more nationally published English-language journals. They are seeking to publish at least 30 new titles a year with 500k RNB to launch. These titles will have no APCs under a "diamond" business model, echoing the SciELO open

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[17] https://scholarlykitchen.sspnet.org/2020/05/11/chinese-publishers-react-to-new-policies-on-research-evaluation/

[18] MOST assigned a task to ISTIC (Institute of Scientific and Technical Information of China) in 2018 to create a national blacklist, but so far no list has been released. ISTIC is trying to shift it to an early warning list to warn institutions about potential predatory journals but that has not been seen either. Some institutions are making a blacklist on their own, but it's not a list of predatory journals as such. Instead, it's a list of journals that publish too many articles from China and charge APCs (such as Oncotarget, PLOS One, SR, Medicine, etc.). Institutions will not reimburse the APC for these journals and won't reward or consider in the evaluation process for promotion.

access model. One problem might be the difficulty such titles will have in getting into the key indexes.

PhD programmes in China have also recently been subjected to review and change. Previously doctoral students would be required to publish at least 5 articles in High Impact journals in order to qualify for the doctorate. The government is now focussing on measuring overall research abilities; there is thus less pressure than might have been the case previously to publish, but the policy is up to each individual institution to implement and, we have heard, maybe slow to come about.

APCs are not particularly well managed in China. Some funds may originate from research funders or be part of the research grant but in other cases, we were told individuals will pay the APC (and possibly claim back from the university i.e. an accounting practice) but in some cases the individuals will indeed pay and are prepared to do so.

As to medical education generally, we learnt that as with many other countries, medical colleges and research hospitals are mostly run in association with the universities. They are together with the universities on resources. Top tier Medical Colleges may well have their own libraries but nevertheless subscriptions are centrally procured in China either via the National Library of STL[19] (which buys for the whole of China) and at a second layer – the DRAA[20] - which is a pricing consultancy which gets the best price for its members. Universities also still buy locally. We also heard the view that libraries are now libraries feel that they are now overwhelmed with content and beginning to ask serious questions about usage.

8.2 India

As with China, India is going through an expansion of its research base so that numbers of PhD students for example rising from... over the past decade. Thus "There were 326 PhD-awarding institutions in 2000; this rose to 912 in 2017. According to the University Grants Commission and the Department of Science and Technology, the number of science PhD holders tripled in the same period.

"*The top-ranked universities in India grant around 2,500 science PhDs each year. … In all, we have more than 800 chemistry PhDs a year*" (Pradeep, T. (2018)".

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[19] http://www.capsella.eu/wp-content/uploads/2017/06/ZhangXuefu_An_Introduction_of_National_Science_and_Technology_Library_of_China.pdf

[20] http://www.libconsortia.edu.cn/index.action

The drive now is an increase in quality and impact factors have become extremely important. To that end the Indian government through the University Grants Committee (UGC) has provided a Whitelist of journals which authors should use for publishing - the UGC-CARELIST. This includes both international journals and local Indian journals. The UGC-CARELIST has in turn been subject to criticism in that it contained predatory journals and in May 2018 of over 4000 thousand titles, 305 were duly removed. There is no blacklist per se but there is interest in Cabells Blacklist.

Publishing articles in India is critical for individuals two reasons: firstly, an initial appointment to a position, and secondly, assessments or appraisals whilst in post. To be appointed in the first instance researchers must have a good publishing record at an appropriate level and once in post, promotion to the next grade is a matter of publishing a good number of articles over a given period of time. Indeed, if someone publishes in Nature or Science they are automatically and immediately promoted to the next level of seniority without further discussion or interview. Pressure to publish is significant – this is true even at the undergraduate level.

The explosion of predatory publishing in India is probably the consequence of the educational and research expansion we have talked about and, as with China, the lack of infrastructure capacity to deal with in particular the explosion in Doctoral students and their needs and also the strict criteria for individual promotion, forces the publish or perish mentality. Another factor is that there has not been a significant drive at a state level to establish new journals, unlike South America and yet universities are also legally unable to act in an entrepreneurial way to establish new titles themselves; hence it has been left to an inexperienced market to attempt to develop new journals to satisfy people's needs which in turn has led to the rise of predatory publishing.

Indian PhD students have traditionally been required to submit at least one paper to a scientific journal before they can be awarded their PhD. This criterion has recently been revised by the Indian UGC and a proposal has been made (Vaidyanathan, G 2019; The Hindu 2019) to, essentially scrap the regulation. It was believed that this requirement led directly to the explosion of poor-quality journals (Priyadarshin, S 2018), that offer to publish papers quickly for a fee, without providing services such as editing and peer review. The number of PhD's awarded went from 23630 to 34400 between 2012 and 2017 and the UGC reported that Indian academics contributed 35% of all articles published in various kinds of fake journals between 2010 and 2014. The recommendation is that the policy change so that PhD candidates will be assessed by examination midway through their programme and they be required to

defend a thesis in an Oral examination. Quite what the position is today is unclear, but it is likely that the regulations of 2010 will continue to be applied i.e. it is still a requirement that students publish one or possibly two articles before completion of their doctorate.

Medical colleges and hospitals as far as we can determine and as with others are part of the university sector and therefore subject to the national and regional procurement systems in place. Thus, whilst clearly a national concern, there are perhaps market opportunities around the Blacklist, but it seems unlikely that there will be great potential for a whitelist if the CARELIST remains critical; it might be a matter of working with national committees to deliver that.

8.3 The Middle East and North Africa

The main theme that emerged from discussions with libraries et al in the Middle East is a drive towards improving their standing in the international league tables and publications have been an aspect of that. Universities are concerned about quality and metrics in particular; we were told for example, that universities would not be able to sign up to DORA[21]. That being the case both Blacklists and Whitelists may have a place in this region. However, we were advised that budgets are not what they once were, even what they were 10 years ago. There is a much greater expectation of value than used to be the case. Institutions were described as somewhat conservative and unwilling to pioneer new developments, although if, for example, resources were established in one or two universities it will likely to be taken up by all of them.

Research funding comes internally – Universities are inherently well-funded. There is no further secondary evaluation.

Research staff also appeared to make a direct link between open access and predatory publishing and there is therefore some scepticism of open access in general, and hence not as much likelihood of researchers getting involved with predatory publishing. But as with others, it is still the case that doctoral level research requires published papers and that issue is compounded by the fact that for successful papers to count towards individual accreditation they have to be a single author, whilst the current obsession in the gulf is the need for co-operation and joint authors, again to try and achieve a higher position in rankings.

There seems to be no explicit funding for APCs.

8.4 Turkey

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[21] https://sfdora.org/

There are 207 universities in Turkey of which 75 are private. There has been an expansion over the last 15 years including the division of some big universities. In contrast to most parts of the world, some big universities, with upwards of 200K students and which have more than one campus, have been split.

It is a highly centralized country; in answer to the question, how much autonomy do universities have, it became clear that the answer is very little. Rectors are appointed by the President after scrutiny by the Higher Education Council [HEC] who give permission.

We were able to contact ULAKBIM, a department of Tubitak. Tubitak is an important national agency of Turkey whose stated goal is to develop "science, technology and innovation" (STI) policies, support and conduct research and development, and to "play a leading role in the creation of a science and technology culture" in the country[22]. ULAKBIM[23] is concerned with technical solutions and information; they are rather like Jisc in the UK used to be and similarly they manage the academic network. They have 3 main depts: technical solutions, network technologies and cloud services. They also support high performance computing.

The Turkish Higher Education Council decided some time ago to develop a list of approved journals for research publishing and designated 1500 titles listed from Web of Science which were further categorized A, B and C; this categorization is then used to drive research funding, government funding through TUBITAK being the sole source of research funding. Although this was in the past, the list continues to be reviewed year by year. It is not actually compulsory to use it and it is possible to publish in other journals, but for research funding purposes this is what is used.

There are also the National Journals, which come within the scope of ULAKBIM and who provide a free platform[24] available to any journal which is published in Turkey if they meet certain criteria. We were told that there were 1800 journals using this platform (the site says more). Sometimes they drop out or are removed through not publishing. It looks and operates rather like SciELO[25]. It is intended that all journals should be OA (all new journals have to be OA) but not all are yet in DOAJ because the Turkish custom, so were told, has been for the journal to retain copyright rather than leave it in the hands of the author. Their intention is that all these journals should go into an emerging, local offering of SCOPUS. It looks as if the language varies - not all are in

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[22] https://www.tubitak.gov.tr/en/

[23] https://ulakbim.tubitak.gov.tr/en

[24] https://dergipark.org.tr/en/pub/page/about

[25] https://scielo.org/en/

English - but it would appear that they are all Diamond i.e. no fees. DERGIPARK is considering a model of no submission fee but if an article is accepted to go to peer review there would be a fee. Open Aire indexes the site.

There is no blacklist in Turkey and there are no measures in place or planned against predatory journals. Universities can seek APC funding for their research, but it is likely that researchers pay from their own pockets; that is, if you are not actually seeking research funding, you can do as you wish. The state does not tell researchers where to publish, but they do undergo a performance evaluation done by HEC which covers all aspects of research. This impacts on salary and tenure. There are incentives to publish in journals indexed in WOS or SCOPUS.

We also heard about the role of Turkish Libraries. They deliver a good level of service in international terms, but they are not terribly involved with instructing faculty about predatory journal but try to help when asked. The purchasing of databases is centralised at the national level which impinges on their role.

We were also advised to look at a research article (Demir, Selcuk Besir, 2018) if we wanted to understand why Turkish researchers actively publish in predatory journals (they are – after India one of the biggest). The author, Demir, is in the education faculty of a Turkish university and he set out the reasons based on interviews of researchers. He first discussed aspirations toward academic promotion. Some universities insist on at least one publication before a doctorate can be awarded. The publication must be indexed in some key indexes but (as the author explains) some predatory journals are also in these indexes. Publishing in journals not indexed in this way was sometimes ignored. He also discussed incentives – researchers have been paid extra money for each publication in international journals (fake of not). Not surprisingly another reason for publishing in predatory journals was publish or perish pressure. Finally, researchers interviewed claimed to be unaware that a journal was "fake" (predatory). And sometimes younger scholars were deceived by email.

8.5   Africa

Africa was not part of our initial brief but inevitably came up in that several African countries responded to our survey and, as a consequence, we interviewed one researcher who was based in Botswana and two others with strong links to the continent. The overriding theme of our discussions was the extent to which publishing drove the research agenda. "*In Botswana, it is publish or perish - to an even greater extent than in the USA. To get promotion, you need to*

publish at least two items a year to get on. Indeed, many staff are on three year rolling contracts. And to get renewed, they have to have a publication record" And similarly, "*there is a lot of pressure to publish in South Africa so that, for example, postgraduates end up going to the first journal they can find and get accepted. They get excited to get a paper out*". And this is not just true for established researchers; as with others there is a need to have a publishing record to get a PhD "*it is a different system to the USA or the UK; It is assessment by publication*". South Africa has also long had a metrics driven system of reward for its research outputs (Government Gazette, 2015)

Probably, as a consequence, predatory publishing seems endemic in Africa "*the reason why, it's simply to do with the need to publish: to secure promotion, to keep one's job, to succeed".* One experienced researcher told us "*it is easy to be caught by predatory journals. Some have become legitimised. An example would be MDPI, which was previously seen as predatory, but now is reputable*". We are also aware that Nigeria is one of the highest sources of predatory journals in the Cabells blacklist.

This is not to say that not that the African states are not doing anything about it. For example, we heard a lot about Africa Journals Online, both from the UK and sources in Africa, which is achieving considerable support as a legitimate open access publishing platform, Africa Journals Online hosts more than 500 African journals and as a model is being transferred to other national organisations in the region and beyond, including Nepal, Sri Lanka, Vietnam and Bangladesh.

On the quality issues there are some initiatives that are attempting to deal with the problem. Thus, South Africa's Department of Higher Education and Training (DHET) began clamping down on academics publishing in predatory journals during the 2016-17 academic year, withholding at least ZAR62 million (US$4.2 million) in subsidies (Naidu, E & Dell, S ,2019). The department also commissioned the Centre for Research on Evaluation, Science and Technology (CREST) at Stellenbosch University (Mouton, Johann, & Valentine, Astrid. (2017) to conduct a study on the quality of South Africa's research publications, which included predatory publishing. In an article – the first study to analyze the extent of predatory publishing in South Africa – published in the *South African Journal of Science* in 2017, Johann Mouton and Astrid Valentine (Mouton, 2017) found that 4,246 South African papers published in 48 journals were either probably or possibly predatory. The department of higher education and training has repeatedly cautioned against the use of incentives and the "perverse consequences" they bring. But they continue to be widely used. "These institutional mechanisms have created a problematic culture in some universities

where "getting published" becomes the end goal. Quantity edges out quality. From here it is practically inevitable that some academics will fall for the promises of predatory publications"[26].

8.6 Other Asian Countries

8.6.1 Japan

If we were concerned only with medicine in the narrow sense, Japan ranks 5th in the number of articles contributed to medical literature with only USA, PRC, UK, and Germany making a bigger contribution. If we include all aspects of health Japan drops to 10th. The new prominence of China has slightly obscured the major research status of Japan but for the STM Association there is now a working chapter of Japanese companies (mainly subsidiaries).

We are aware that Japanese academics do publish in predatory journals and largely for similar reasons to others i.e. that they need to show a publishing record in order to get promotion (whilst publishing in High Impact Factor journals takes time) and secondly because they do not necessarily have the right level of understanding or appropriate information about predatory journals. An expert who has had a longstanding relationship with medical libraries expressed this as follows: *My first impression to your question "why do so many Japanese researchers publish in predatory journals?" are -*

1) *Because they are rushed to publish in "international" journals to get proper position,*
   (As you know in many cases it takes such a long time to publish in high impact factor journals.)
2) *Because they do not have appropriate information about predatory journals,*

   (In Japan medical libraries are often recognized as the place just to get copies of journal articles despite the efforts of medical librarians to provide appropriate information.)

There is a consensus here backed up by some others in the field.

Predatory publishing seems to have come to the fore more recently with the publishing of an article in the popular newspaper Mainichi on October 10th, 2018 which highlighted, through an analysis of 5076 papers of Japanese authors between 2003 and 2018, 327 were published in predatory journals. Moreover, some of these authors were based at prestigious universities such as the University of Tokyo and Osaka

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[26] https://theconversation.com/why-developing-countries-are-particularly-vulnerable-to-predatory-journals-86704

University. This information came from a senior librarian and he checked the websites of libraries in membership of the Japan Medical Library Association (JMLA) and he found that 23 of these libraries are alerting to predatory journals and also that 6 research management departments of universities have set up alerting pages. He continues: *"From a number perspective, it seems that the medical library is involved in predatory journals. However, you should take into account that the installation of university research administrations and University Research Administrators is a relatively recent event, and their deploy is limited to research-oriented universities. On the other hand, about 20% of medical libraries only involved in publicizing predatory journals. The reason for this is that the work of the medical library is still to collect materials necessary for research and provide information services and has not shifted to research support services such as disseminating research, copyright and research data management."*

The same librarian answered the following question: "*We are very interested in who might advise Japanese researchers in these fields about how to avoid predatory journals. Is it librarians and if not who? Research managers? Author services companies? I discount senior academics because that would I expect be the main port of call*". His reply was as follows: "*I think it's a colleague who first consults a predatory journal. I'm guessing that next will be a medical librarian or URA. You should be careful that research universities, which receive a lot of external funds, seem to be involved in the research administration department rather than the medical library in terms of research evaluation and quality assurance compensation*".

What we were also told with some authority is that there is no intention by the Japanese government to develop a list of preferred journal titles i.e. a whitelist. To quote, "*We are extremely egalitarian in the sense that any journal is contributing to scholarship and professional expertise as long as it is a journal and are extremely protective in the sense that any Japan based journal has to survive international competitiveness by being by being treated favourably; though to me those two attitudes do not necessarily sound consistent*"

We were also alerted to the existence of a keynote lecture in 2019 from Toshio Kuroki of the Japan Society for the Promotion of Science (JSPS) and Professor Emeritus of the University of Tokyo. His chosen title was *Journal Crisis at a transitional phase of the STM Publishing*[27]. For him predatory journals come under the heading of Publication Ethics along with ghost writing and retraction rates. Out of the five worst scientists in the retraction watch leaderboard are Japanese medical scientists but the

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[27] https://www.jstage.jst.go.jp/static/files/ja/pub_20191021_Seminar02.pdf

rate of retraction is levelling off because of better oversight. There are 7 slides under the heading Predatory Journals (slides 17-23). Particularly interesting are slides 21 and 22. His thesis is that there is a culture of science especially "publish or perish" existing behind predatory journals

- *"Rampant of predatory journals cannot be explained by Predators vs prey relationship.*
- *Ugly symbiosis exists between predators and science community.*
- *A majority of clients are from developing countries. They are hard to publish in qualified journals under poor conditions. Strong pressure to "publish or perish". Without PhD, they are unable to study abroad*
- *Predatory journals provide venues for disadvantaged students and scholars".*

A deterrent has been missing. A list of publications has not been asked for when applying for most JSPS grants. This may change. A Western CEO of the Japan branch of a major world company argues that the role of the funders is crucial because they do not want to waste money on APCs for such journals. Funders interact with research managers so there is likely to be an increased importance for these entities and less for libraries now that the big deals have taken over from print arrangements between subscription agents and consortia.

We also have information from our work for the ISSN headquarters in Paris. A reply from the Japanese National Centre admits that predatory journals are given an ISSN even if they are known to be predatory if they meet other requirements. This is unlikely to change soon. It is also stated that there are moves against predatory journals which were being planned in 2019. This was from an organisation representing researchers.

8.6.2 Indonesia

We had but one contact in Indonesia but nevertheless felt that what was reported to us was of interest; it should also be noted that Indonesia is another of those countries which have gone through a rapid development including its research capability over the past few years.

The consequence, again in common with others, has been an explosion in article publishing deriving from the need for published articles to secure qualifications. Indeed, in Indonesia that is not merely at the PhD level but applies to all levels including Bachelors, Masters and Doctorate. Whilst it probably doesn't matter where articles are published for a Bachelor's Degree, for Masters it needs to be one of the journals which are nationally accredited or perhaps listed in Scopus and for PhD's

articles must be listed in Scopus or similar. These are government regulations albeit they are translated by each individual university, but they represent a minimum standard and some universities may well be tougher.

There are at least two consequences of this publishing policy; first, all universities have themselves established what might be translated as "accommodating journals", whose raison d'etre is to provide an outlet for the research papers generated locally. These journals are funded by the universities and therefore are free of charges to university students and staff. APCs may well be charged to others or certainly to international authors. This seems an entirely sensible approach to deal with student publishing policy. Secondly there is a nationally accredited list issued by the government; this is a whitelist which groups journals into at least 6 levels so that those close to the top would be in Scopus, whilst those at the bottom level would "*accommodate the poorer quality*". Notwithstanding these approaches, predatory is still common in Indonesia and has been in the past, because of the qualifications issue and in general the reward system in general which demand a high level of publishing. However, it seems that publishing is being more closely monitored and we noted the establishment of an open access publishing unit the PPJPI[28].

8.7   Australia

Australia is not a big country in terms of population. (*As of 2020, Australia has an estimated population of 25.50 million; it is the 55th largest country in the world in terms of population, between Cameroon and Madagascar).* And yet if we look at its contribution to medical publications it comes 7th in ranking between Italy and France and if we take a wider health definition it ranks 4th between the UK and India. This is surprising and indicates that there has been serious investment in research and, of course there is no other language used, other than English, unlike many other leading countries.

We have a certain amount of evidence about researchers and support staff views (11 people responded to Survey 1 and 10 to Survey 2). We also interviewed two librarians, one in a university and one in the health service and one researcher. Also, there is a lot of interaction between Australian and European researchers and we had incidental information from other interviewees.

Of the 11 replying to Survey 1, 7 of the researchers identified as such. Most were in universities and they covered research in clinical medicine,

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[28] https://ppjpi.unair.ac.id

nursing and public health. Of interest, a whitelist was seen as effective or somewhat effective, though they currently do not use tools or guidance provided by the library for finding a journal. There was usually a research management office in the universities, but they were not perceived as much help in finding a journal or assisting submission.

The majority who filled in the support questionnaire were librarians who were in medical faculties or in hospitals and classified themselves as medical librarians. They covered all the health areas usually defined as part of a medical librarian's support area with twice as many supporting nursing researchers as clinicians and no dentists. The criteria for choosing a journal were much the same as that the researchers picked on with one interesting difference; indexing was placed higher than impact factors. This may have been because there were more librarians in this group supporting nursing researchers than among the researchers where no nursing researchers answered. A question about their interest in a whitelist in health elicited 75% "interested" but none "very interested". The majority considered that publishing in a predatory journal was bad news for the credibility of their faculty research reputation and they outlined the help they gave to discourage this happening listing as equally most important offering of tools such as Think, Check, Submit and the provision of guides and websites just above training. The librarians were more likely than the researchers to have known someone who had published in a predatory journal but, like the researchers, they considered this was because the journal was known to be predatory.

We also interviewed two librarians – both well established in different big cities but one in a university medical and health faculty and the other in a health service post. The former saw herself as giving a lot of help to researchers across a wide area of health research, but the latter had no demand for her services as far as predatory journals were concerned. Both these librarians were fairly senior. One can assume that the patrons of the health service librarian went for help and discussion to the local big university who was associated with her service – at least the medical researchers did. It was not at all clear whether the nursing researchers (quite a number in Australia) asked any librarian. The health service did have Libguides but there was nothing specifically on predatory journals. The health library service did offer help in writing. A nursing researcher who had lived in Australia suggested that Australian health support structures had features of both the UK and the US.

What was most impressive in the work of the university medical librarian was the huge scale of investment in library support staff. She was not technically a medical librarian: she was a manager of client services – though most of the content of the two faculties she administered were

health. Each sub discipline had a library liaison person and those working in this structure could call upon experts on IT, metrics, scholarly publishing and also the staff of the research management office. There was a strict demarcation but, as far as one can tell, no rivalry. The librarian interviewed did not know if the research management staff monitored publications to make sure that grant money was not wasted on, for example, predatory outputs. The university medical librarian also claimed in her replies to the questionnaire that she was empowered to buy something like a new whitelist, but she admitted in her interview that she was now at the mercy of new procurement procedures which involved a lot of signatures.

We talked about predatory journals. There were guides and training and chat facilities to aid patrons. A situation was presented in which there was a lot of demand/help over difficulties over predatory journals. One to one was not uncommon especially among the senior people who probably felt uncomfortable coming clean in an open training session mainly used by early career researchers or doctoral candidates. It was suggested that the younger researchers preferred to come to a librarian for advice than to their formal mentor. We were told this Is this typical of the bigger Australian city universities.

There is also a network that is entirely for the health service people; it can be reached by the university search box but there is a login required then. This was for the one state and might not be the case in all states.

8.8   Europe

Although there continues to be significant differences in European countries as to how they manage their research and education processes, there is also an increasing degree of homogeneity over the past two decades. Thus, we spoke to a mixture of European countries and can point to several common factors in our discussions, perhaps with one or two exceptions. One of those is the extent of "low level" publishing needed, given the historic commitment in some countries to the need for sub PhD level papers to be produced and the extent of local language publications that exist. Otherwise library services and research management offices, where they exist, are increasingly similar in their approach, deploying relatively common tools to solve issues. This is exemplified by the number of pan-European bodies that exist.

To our knowledge there are no Blacklists held across Europe but there are whitelists in some countries, including for example France and Poland, though the degree to which these are updated or how they are enforced is not something we investigated in detail. Thus, one librarian

with international experience told us "*In Italy whitelists exist for the recommended journals in which to publish and which determine every four years the research profile. And Denmark has the same system*".

If there is one difference between Europe and elsewhere, it is the degree to which promotion and reward policies are dependent on the publishing record; though it is perhaps not as strong as it once. We spoke about compliance with the Dora[29] initiative and signing up to Dora is indicative of change. There is certainly a strong accent on open science with the Scandinavians and the Italians being very forceful in their adoption of open access policies.

As to predatory publishing in the European context - some regarded it as almost non-existent, though many we spoke to knew of people who had published in predatory journals either in their organization or elsewhere. In more mature research environments, it maybe there are more controls in place and more of an accent on peer support than otherwise. This comes through in the surveys and was mentioned to us by a mix of people. However, there is also a sense in which the publishing records of universities have become polluted either by researchers coming from elsewhere and bringing publication records with them, or through international authors continuing their previous practices i.e. continuing to publish in the same publications they have used before. So, it is not to say that there is no predatory publishing at all in any European universities, but it is probably just not as a common place and or has not been recognised. There is thus some preparedness to buy into services which might help might avoid predatory. We heard for example, from one University in Denmark, about innovative ways of using Cabells data to integrate with research systems and library OPACs so as not to just avoid publication but to avoid citations and the continuation of the predatory articles in the mix.

We also saw significantly more effort from librarians and all research managers towards educational solutions to avoid poor quality research publishing with library staff being realigned so as to find time to provide enhanced support through training webinars, online support, web pages etc.

8.8.1 France

We had very limited input from France. But the insights we got was enough to warrant saying a little about the country.

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[29] https://sfdora.org/

Research in France is essentially based upon a network of research organisations or institutes, which are publicly funded and wherein full-time research employees within have a job for life, assuming they're competent. They don't necessarily have to find funding in the way that others do. Hospitals also undertake research, but they have to apply for public or private funding. In other words, they are deemed as not for profit. Metrics are still important, but not so much since France signed the San Francisco declaration and annual evaluations are no longer just based on the impact factors but on a wider range of criteria. However, old habits die hard, and some continue to believe the impact factors culture will take a time to change.

Research seems well organised and founded. There is a need to publish at least two papers before a PhD, can be awarded. And as with other European countries it is likely that there is a level of predatory publishing taking place again, often the consequence of links with the developing world.

8.8.2 Germany

Most journals in Health are in English but there remains a substantial German language literature particularly directed to professionals rather than academics. Using our definition of Health, German is ranked 6th in terms of numbers of journal articles published and recorded in Web of Science but if Health is defined more narrowly as Medicine the ranking is 4th between the UK and Japan. The survey reached a tiny number of medical researchers and we did not interview any researchers. We were told that the survey for intermediaries supporting researchers went out on two German library lists, but it looks as if only one medical librarian was willing to fill in the form. However, we did reach for interview, two librarians in universities, neither of whom were medical librarians per se but who were both willing to talk about the position of medical librarians. These librarians had different roles but broadly speaking they were open access advocates and within their portfolios, they covered various roles relating to OA such as publishing including the dispensing of APCs and repositories. They both agreed that there were subject librarians in their universities.

In one case there was a medical school. It would seem to have something of an independent existence: *The University Medical Center one of the largest university hospitals in Germany. Faculty of Medicine and University Hospital form a unity in which excellent research, teaching, and patient care take place under one roof. Three priority research areas and a wide spectrum of medical disciplines characterize the faculty.* Our informant suggested that the medical school works in a different way

from other departments. She had done analysis which covered where they publish and: *"it looks as if they are more likely to publish in predatory journals than other departments. At the same time the turnover in these departments is higher than elsewhere and there is greater pressure to publish in any case. There are more international students/staff than elsewhere".*

This interviewee handles APCs and gets questions about whether a journal is predatory because of that. Her concern is that money from funders is not spent on a predatory journal.

In her view the problem of predatory journals is deeper than a whitelist can cover and she would be reluctant to make a purchase of a specialist whitelist until she was aware that there was a stronger suite of open access medical journals than there is currently.

The other interviewee takes the view that just relying on a list is a relatively lazy way of going about publishing. "*What is required is a more integrated approach whereby teaching and training enables researchers to be able to evaluate potential titles for themselves with the opportunity to cross check against a list*". She gave an example of a doctoral candidate in medicine who was under pressure to get a piece of work published before a certain deadline. He was approached by a journal which looked respectable: peer review only took a week and publication was less than 3 weeks from submission with a very low APC cost. The journal itself was not actually that specialized but pretended to be so.

Both prefer to emphasise the use of Think, Check, Submit.

PhD's in Germany are, in effect, by publication; many final theses are a bundle of published papers. There is stress to get a journal article out by certain time or date. Hence the pressure mentioned above.

On the other hand, in one of the universities, publishing outputs are no longer the key driver for recruitment and promotion; it changed some two or three years ago. There are new criteria (within this university) which now emphasise best practice in open access depositing in the repository etc. The emphasis is on ensuring that outputs can be read and can be discovered i.e. discoverability is a criterion for promotion. These have changed over the past 2 years.

There is a cautionary point here. It may be common across Germany although there are no country or state level policies on such matters. Each state is different. Caution is justified in this case as the university whose practices we have been looking at, has not yet signed DORA which would be the first step to such a change in policy.

8.8.3 Italy

If we consider medical articles only, Italy ranks 7th (between Canada and Australia) in research publishing, but if we consider the wider health context it comes 8th (between Germany and Brazil). Although we only had one medical librarian to interview (though there were others who had Italian experience) she was senior in an important university and was very forthcoming. We also had the great advantage that both the surveys (thanks to considerable help from Italian agents known to us) we had a better result than might have been expected with 45 responding to the "support" questionnaire and 22 the "researcher" questionnaire.

 If we look at the "support" respondents, there were no surprises; except perhaps that out of the 45 replies only 23 answered the question about the organisation in which they worked. Of those, it looks as if about half worked in a medical library, understandable given the list being used. There was no use of the Cabells directories though some interest in a new one. If we look at the "researcher" respondents, they are mostly in line with the global responses except that no-one knew of someone who had published in a predatory journal and they might be interested in an appropriate white list rather more than usual. Like the generality, they would not turn to librarians for guidance.

The librarian interviewed was one of five medical librarians excluding their director in a library which seemed to have more autonomy than was the case in most countries. As is the case elsewhere she was active in training and guidance and according to her researchers came to her for help. In Italy librarians are not faculty but are able to help with teaching on someone else's course and she was able to counsel against predatory publishing that route also. She helped with writing of papers especially bibliographies but not so much for academic researchers but for those with clinical roles for whom she also has responsibilities. As in other countries there is a discrepancy between librarians claiming to offer guidance and researchers claiming not to ask for it.

She confirmed that there were several national journals (in English) and the early career researchers do publish in them. She did not mention a whitelist but another Italy-educated librarian (now in a different country) drew our attention to the existence of whitelists in Italy – but not on a national basis. We also established that doctoral degrees in Italy follow the European norm in that publications are needed before the degree can be given with all that the pressure to publish quickly that is implied

In the report we have established that across Europe the trend has been to incorporate formerly independent medical schools into a larger unit – a university – and that formerly independent specialist libraries are

subsumed into the main library system. The librarian we interviewed at length spoke of two parallel systems. There are the big deals which are negotiated at a national level (CARE) which is responsible to the Conference of Italian University Rectors (CRUI). The university library systems will decide to opt in or not. They are very interested in the transformative offerings as in Germany: they relate to the way the Germans work. Publishers offering a single resource will go to the director of the library (in her case the director of the medical library) or (if the library is big enough to have such a post) the electronic resources librarian. She does not see the autonomy of the medical librarian as threatened as far as purchasing power is concerned but there are some services which have been centralised at a university level.

8.8.4 United Kingdom

We talked to a lot to librarians and research managers, and indeed researchers, in the United Kingdom, and their views inform a lot of this report. (Indeed, the UK based respondents made up 25% of all replies for Survey 1 and 155 of Survey 2). Looking more precisely at their views, the impression that we get is that, particularly in the research universities, there are considerable efforts being made to support researchers in their outputs, varying from training events and web pages to the promotion of Think Checks Submit with staff, in the research-intensive Universities, dedicated to these activities. Most provide all the major scientific databases and indeed there maybe staff whose role is essentially analytical and dealing with the research evaluation exercise.

There was a strong feeling amongst the researchers that they are self-sufficient in their publishing. Thus, one academic told us "*We do not need whitelists, because we know the literature. We do not need to ask librarians either. Research managers are not relevant; only an important feature of getting grants*".

Impact factors are probably still important, but not necessarily as important as they once were. The research perspective seems informed and professional and moreover, is often international in its outlook. This is not to say that there was complacency. Concern over predatory publishing was perhaps not that high, but there was recognition, especially from the intermediaries to whom we spoke, that it probably went on. Two specific instances were raised in our interviews. The first is international researchers, who may come to prestigious universities, but with the baggage of predatory articles in the past. These get added onto CVs, to social media sites such as ResearchGate or to institutional repositories and the net effect is that the institutional scholarly record becomes tarnished or polluted by this history. It is not necessarily to say

that the articles themselves are poor, but they may well have appeared in journals which have since been discredited. Secondly, researchers who may only be in the UK for a finite period, they will continue to connect with the host institutions and favoured journals. But none of this seems to be such an overwhelming issue for the UK; we did not come across such serious concern that there is a strong market for lists.

Perhaps the one exception is the discussions that we had with the National Health Service librarians. Some of the survey responses and discussions we had suggested that the NHS libraries were occasionally faced with researchers seeking suitable outlets for their research (It should be noted that most NHS research takes place in universities, so this is probably an occasional requirement). Health Service Librarians expressed an interest in a whitelist which they might occasionally consult to deal with those requirements. But again, it didn't appear to be an overwhelming concern and money was felt to be a real consideration i.e. they will be unlikely to pay more than $100 to $200 for such a tool.

9. Summary

Our brief was to understand how researchers, go about selecting journals in which to publish the articles, and the role that others play in that process, such as librarians and research managers. We were also interested in what tools they use to help them in their choices. This was achieved through a mixture of questionnaire surveys and interviews and the published literature. We received a total of 546 responses to our surveys from   64 different countries and interviewed or otherwise communicated with over 60 individuals including researchers themselves, librarians, research managers, publishers, consultants and industry experts. The researchers all identified with the health sector albeit a majority actually worked in other or related sectors such as social research, biostatics, toxicology or psychology.

Our literature review has provided us with a context for scholarly communications and, in particular has provided a chronology of research publication behaviour in a world of predatory publishing. It is typically young and inexperienced researchers from developing countries who have published in predatory journals but we note that it is not just confined to those. Indeed, over 5000 German researchers have also been found to publish articles in predatory journals, where no peer review was conducted. In all cases, it would seem to be the consequence of a lack of awareness. Study after study cites that this has been the case, whether it be inexperienced early career researchers, or senior researchers from the developed world. This lack of awareness seems to be compounded by the success of predatory publishers in disguising their offerings as legitimate, including the emails that lure authors to submit their

manuscripts in the first place. Additionally, are those researchers who submit to predatory journals, with full knowledge of the risks that might apply, because it enables them to build a profile quickly and easily i.e. what appears to be an impressive publication record, which for some is an absolute and possibly life changing requirement.

We have established that researchers, by and large, are self-sufficient in their decisions on publishing, so 86% felt that relying on their own knowledge of journals was either important or extremely important in their selection of where to publish. This may be a feature of the experience of those who responded but we also learned through our interviews that more junior researchers were just as confident in their journal selection. Thus, researchers did not generally seek help from librarians, or indeed research managers, and even asking other research colleagues (51%) is not considered as important as one might imagine (though we also heard through interviews that ECRs were more likely to seek help). Librarians by contrast, and to a lesser extent, research managers were keen to provide increased educational support to researchers, by way of tools and also training, websites, etc. and not just in journal selection but in all aspects of the publishing process. This is the consequence of increased attention by universities and their funders, to ensure that the research outputs have maximum impact. But how successful these educational initiatives might be is a moot point. In our surveys, over 80% of researchers said that asking librarians for guidance on publishing was of little or no importance – whilst librarians were clearly committed to providing such support (48% were providing training and workshops) and a recurring theme of those whom we interviewed was their educative role. Thus, there would appear to be a significant mismatch between what librarians et al were providing and what the research staff (or at least those who responded to our survey) said they did. There would seem to be some way to go before academic authors see librarians as a support source for their publishing.

Research management is a relatively new function in many institutions albeit it has been long standing in many countries and is expanding its remit from what essentially was pre grant support to provide a whole range of support services, many of which are driven by the needs of research evaluation exercises. However, research support staff seem to defer to libraries in any matters bibliographic or content related and would appear to have limited resources in such matters. Even APCs are not necessarily within their domain.

Libraries are also in a process of change as they move inexorably to a digital future. Indeed, in some sectors, such as pharma, libraries have effectively gone. We have reported the growth of research support or scholarly communications teams within University libraries with an

advocacy and educational role. They too may have limited budgets or buying power, but they are also influential in driving strategic agendas, such as open access publishing and related policies.

As to lists there is much use of Web of Science and Scopus to underpin selection decisions and also the use of country level and discipline-based whitelists which support research output evaluations. By contrast there is clearly a lack of, and a need for, tools which identify questionable journals, a blacklist, and a number of countries are seeking to implement something of this kind. So, while whitelists are common, and attempts to define the criteria for predatory journals are multiple, there appears little agreement as to what the criteria for such lists should be or how that might be brought about. Many countries have established whitelists at state level or sometimes at a university level in order to evaluate and drive quality in their research processes and increasingly to avoid any questions of questionable publishing. Thus, we established that over 65% of researchers said they would find a health whitelist an effective or somewhat or most effective use of resources whilst 59% of intermediaries would be interested or very interested in subscribing to a health whitelist.

And as predatory publishing itself, what is unclear to us, is what are its origins; much of our evidence suggests that it originates in the developing world and in particular, India. We know that predatory publications, if not so called, go back a long way. It may well be there is not one specific source, but something that arose worldwide as an obvious consequence of the confluence of a number of factors. In our analysis, it is clear that it still goes on, though few will admit any direct involvement with it. It would seem to be focused on early career researchers and students and be the consequence of promotion and payment policies especially, which continue to emphasise statistical measures of publishing output. Also, the requirement to publish in peer reviewed journals, so as to achieve PhDs, or even sub doctoral qualifications, is also a driver.

We also learned that even some senior academics become party to predatory publishing, as co-authors or supervisors, or otherwise publish themselves and also the extent to which many people are lured by successful email campaigns. Predatory publishing is certainly endemic in some countries but has spilled over into most of the world, either through academics in the developed world submitting papers or researchers from the developing world moving to developed world and bringing their publishing record with them. We have also learned that, particularly in those countries with a significant predatory publishing problem there are moves either to curtail it or at least reduce it significantly by the implementation of new policies which either

downplay the more metric based measures that have been in place, or provide alternative publishing outlets, or both. How successful these have been remains to be seen.

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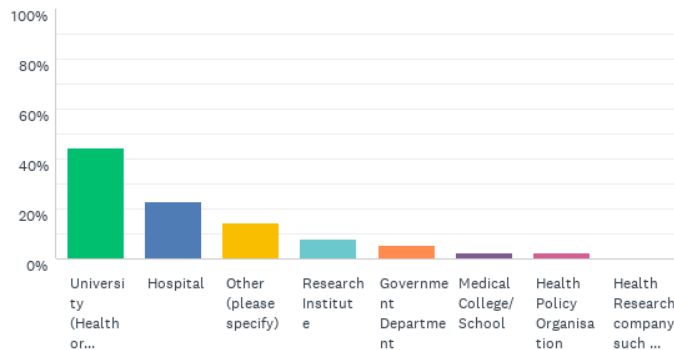
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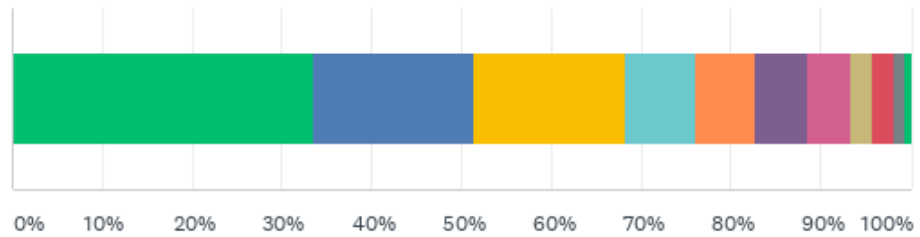
Appendix I Survey 1

Q1 In which country are you based?
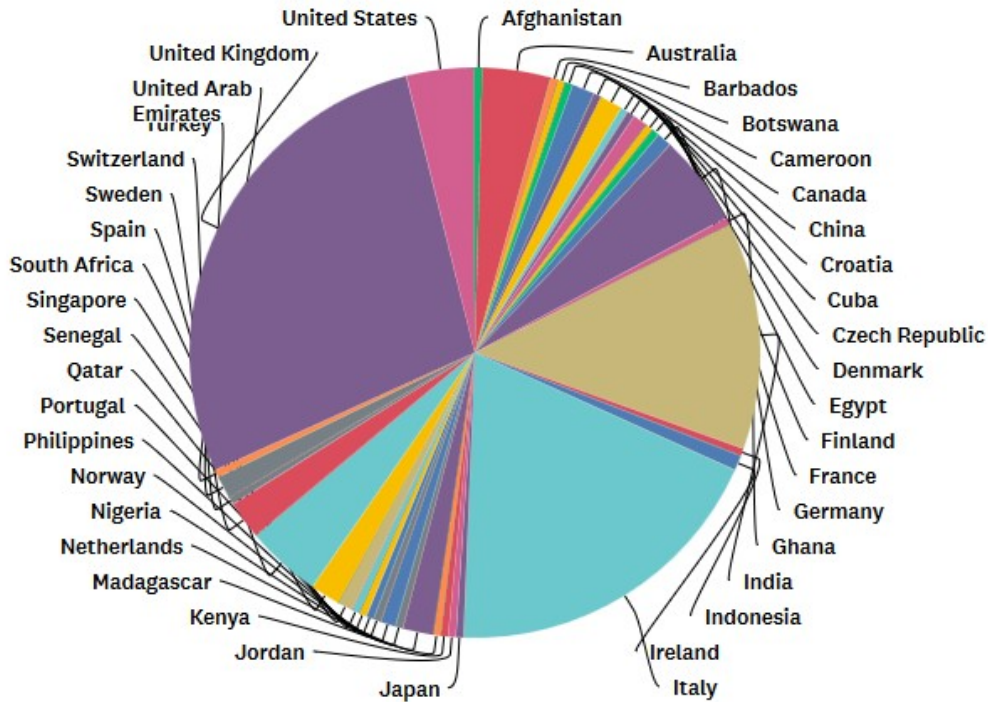
Q2 What kind of organisation best describes where you work?

Q3 What is your main job role?

Legend:
- Librarian - Health/Medical Librarian
- Librarian - Head of Library
- Librarian - Research Librarian
- Information/Knowledge Specialist
- Other (please specify)
- Research support/administration
- Librarian - E-resources
- Librarian - Aquisitions Librarian
- Researcher/author - please go to our survey for you at this address https://...
- University or Open Access Publisher
- College or Institute Dean/Director

Q4 Do you have a particular area of expertise in your (support) role (tick all that apply)?
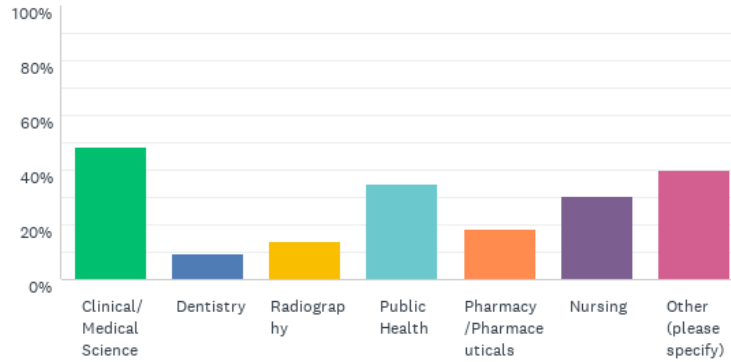
Q5 What sort of services do you provide to help researchers publishing their journal articles. Tick all that apply.
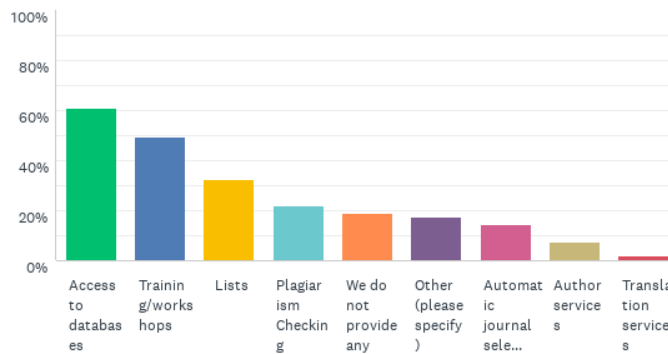

Q6 Do you currently provide access to services to your users which list journals? If so, please tick all that apply:
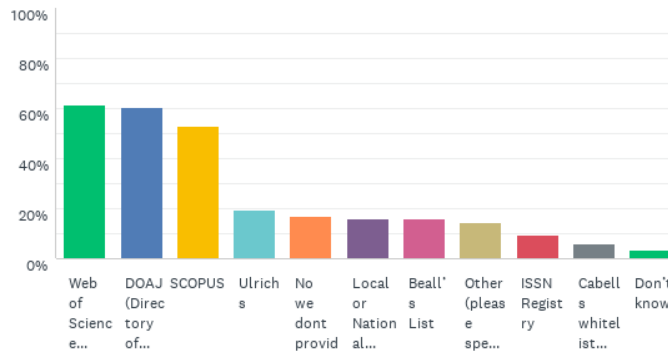
Q7 What sort of factors do you think are important in selecting a journal in which to publish – (whether or not you provide services which support that currently). Please use the scale 1-5, where 1 is not important at all and 5 is extremely important)?
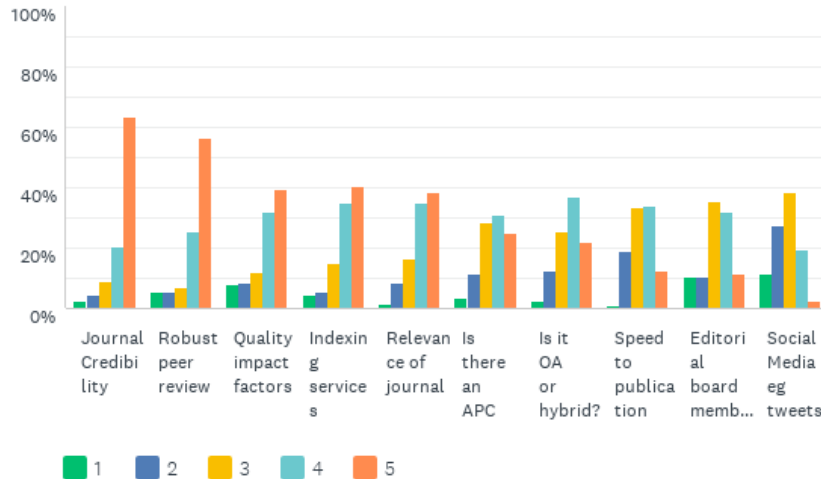

Q9 Would a curated list of quality assured journals in the health disciplines, which addresses some, or all, of these factors, be something you might subscribe to? Score from very interested to no interest at all.
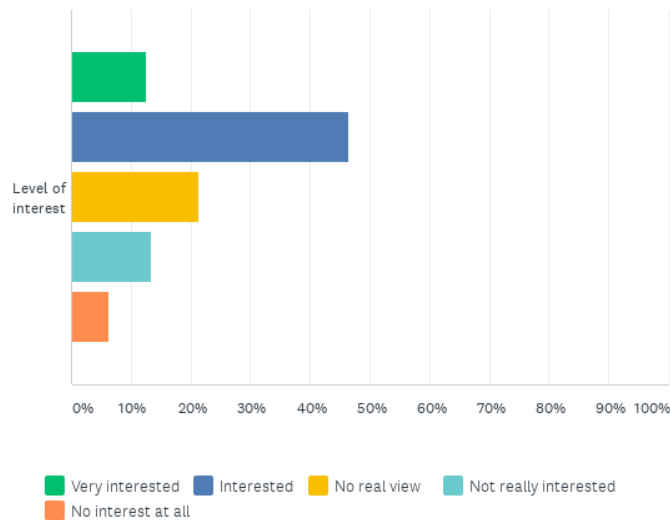
Q10 Thinking about the cost of such a service what do you think would be a reasonable price - in US$ (note that this would be for a subscription for the whole organisation and not for an individual and would obviously relate to the number of possible users).
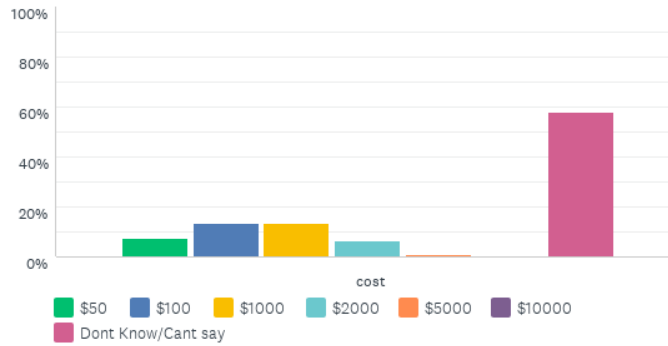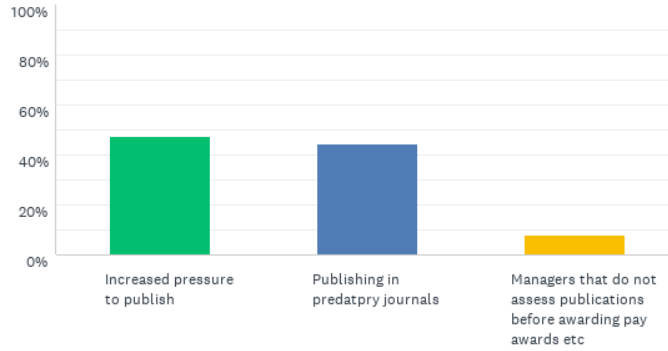

Q11 Do you have the responsibility in your library/office/organisation to make such decisions?
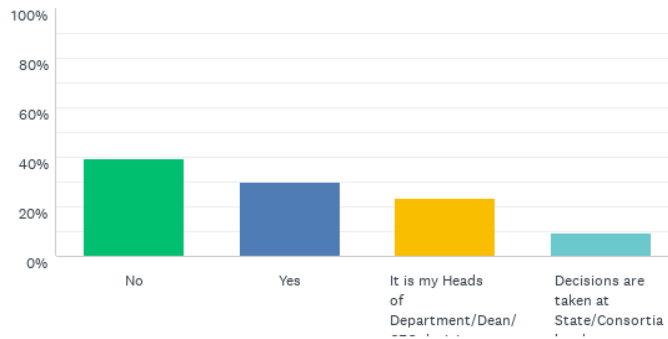
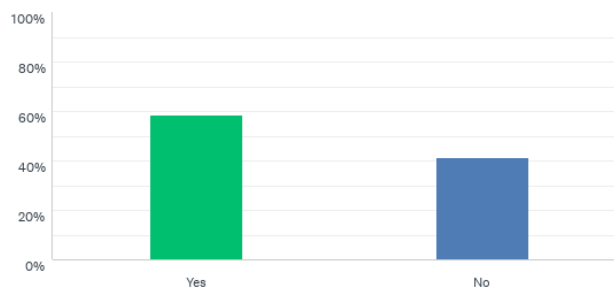Q12 Thinking about where your researchers currently publish…
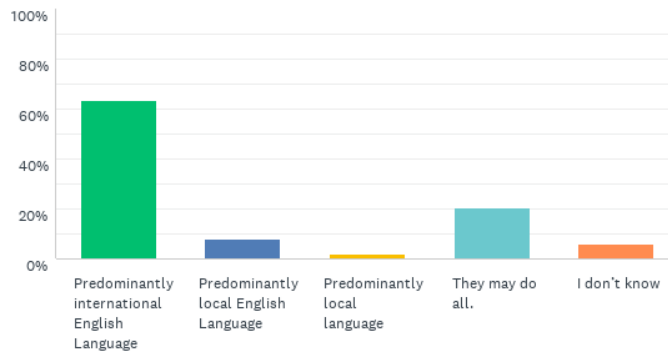
Q13 Which of the following do you think is the greatest threat to the credibility of research published by your staff?
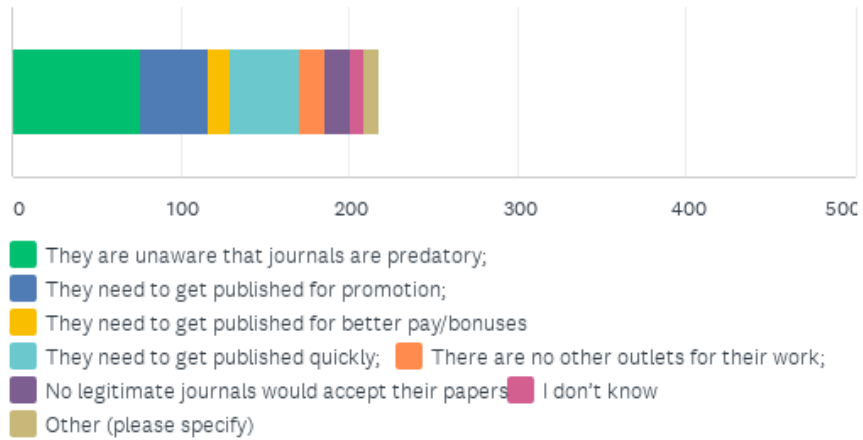

Q14 Do you provide advice on predatory journals? Such as:

Q15 Are you personally aware of researchers who have published in predatory journals?

Q17 And why do you think they do so? Tick all that apply

They are unaware that journals are predatory;

They need to get published for promotion;

They need to get published for better pay/bonuses

They need to get published quickly;   There are no other outlets for their work;

No legitimate journals would accept their papers   I don't know
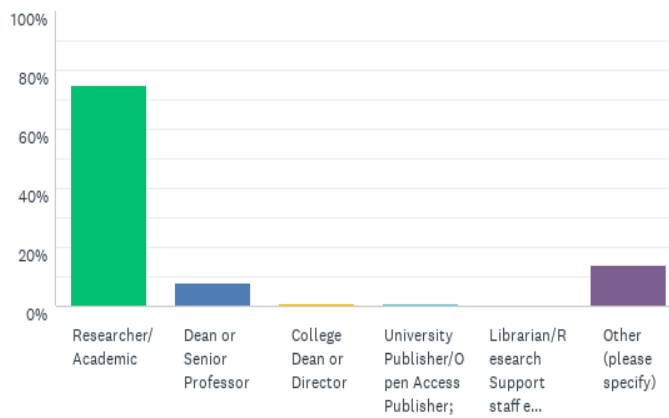
Other (please specify)

Appendix II Survey 2

Q1 Which country do you come from?
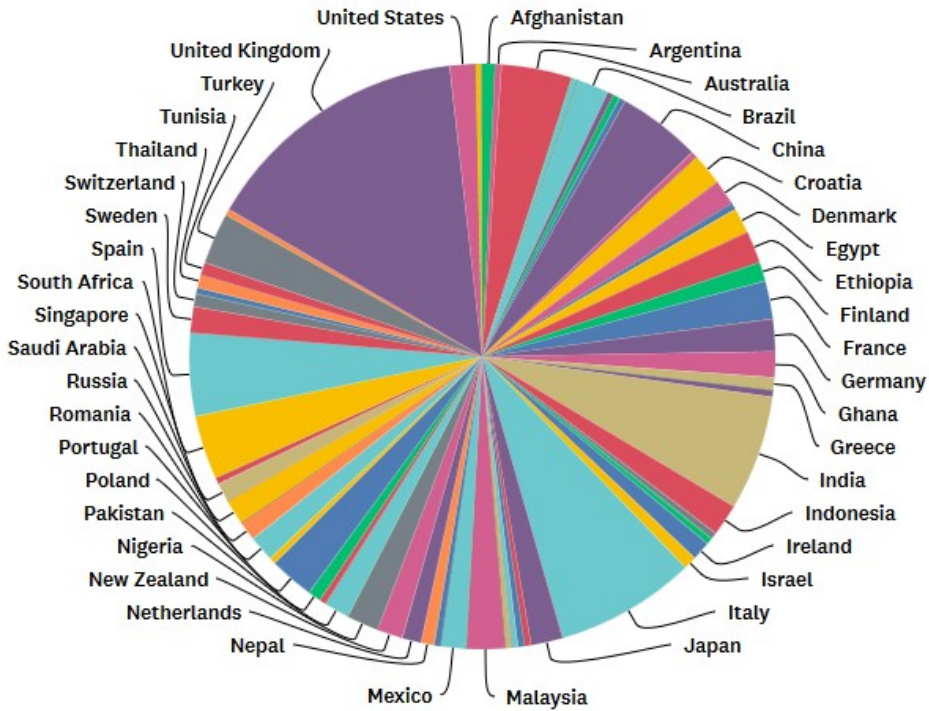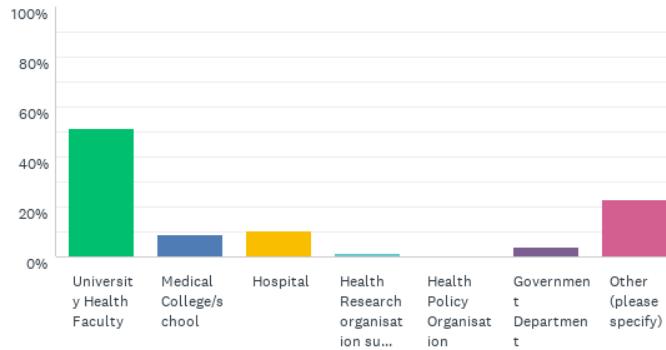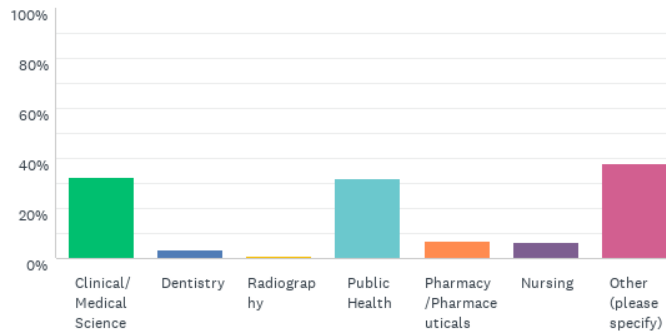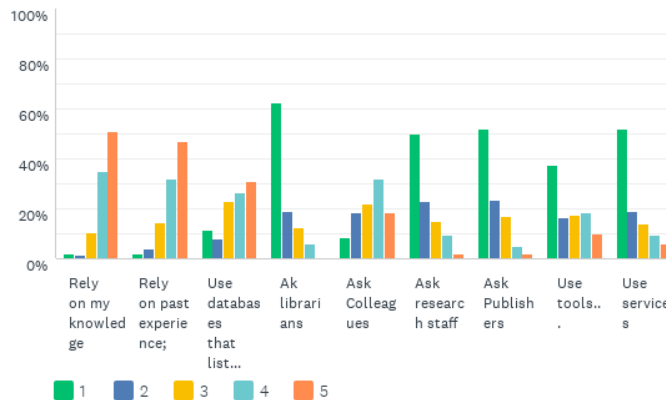

Q2 What is your job role?

Q3 What kind of organisation do you work in?

Q4 What is your field of expertise? (tick all that apply)?

Q8 We are interested in how you go about your publishing and what methods you use. Please indicate how important each of the following methods is for you. Please use the scale 1-5, where 1 is not important at all and 5 is extremely important

Q9 What factors do you think are important to consider in selecting a journal in which to publish? Please use the scale 1-5, where 1 is not important at all and 5 is extremely important.
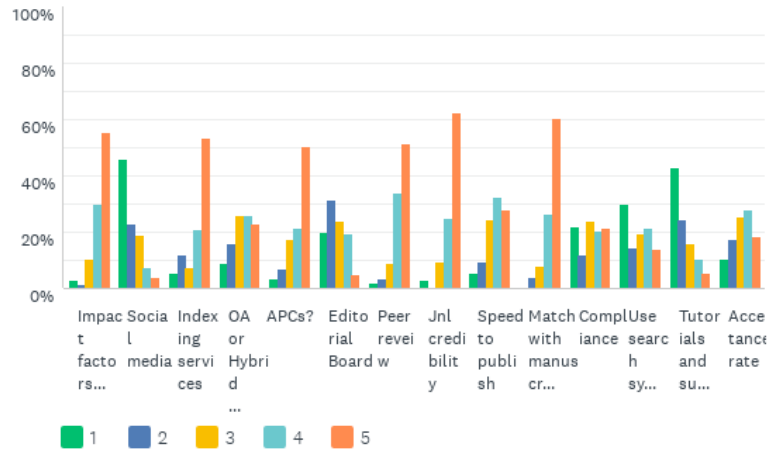
Q10 Do you currently use services which list journals to enable you to select a journal in which to publish? If so, please indicate how useful you find each of those services for addressing some or all of the factors above. Please use the scale 1-5, where 1 is not important at all and 5 is extremely important. If not please skip to question 11.
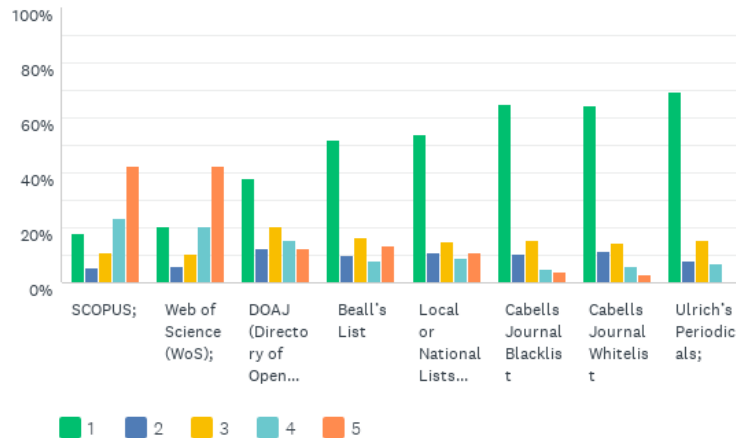
Q11 Would a curated list of quality assured journals in the health and medical discipline, which addresses some of the factors above, be an effective allocation of your organisation or library's budget? Please indicate your view as to how effective on the scale below.
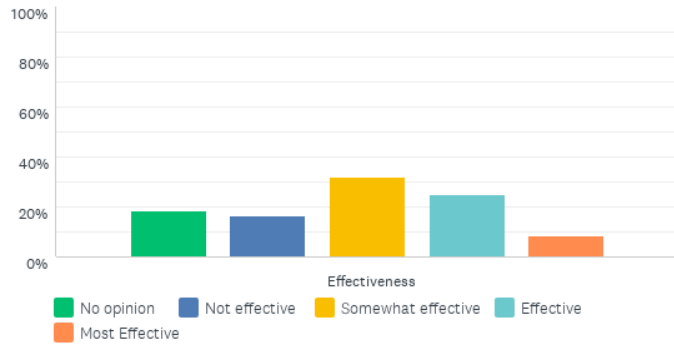
Q13 We have a research management office in our organisation/college/univesity
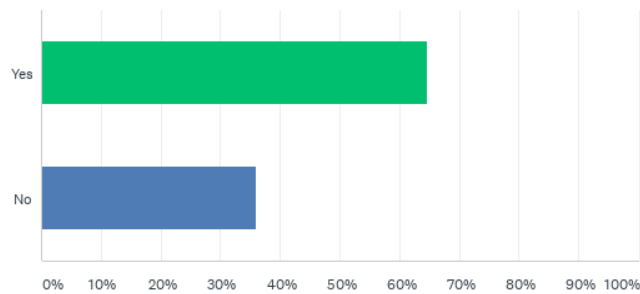
Q14 People in the research management office have been helpful in writing and editing my papers before submitting to a journal.
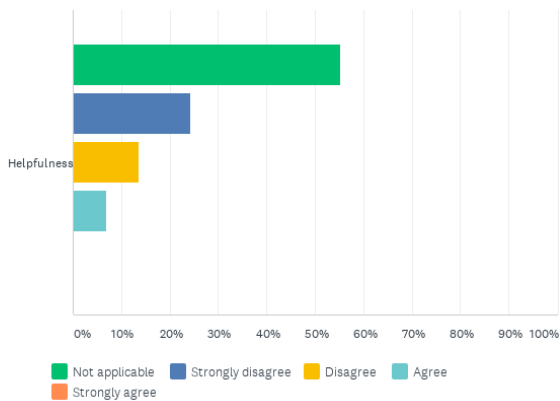
Q16 Publishing in academic journals listed in directories or whitelists improves my chances of receiving a pay rise, tenure or promotion.
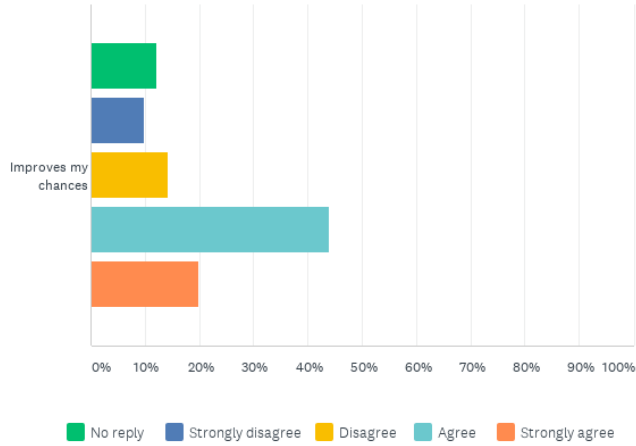
Q17 In the last three years have you requested a librarian/information specialist to purchase access to a database to assist you in your research or publishing?
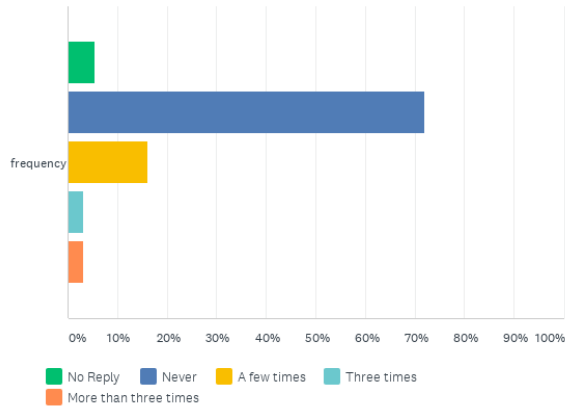
Q18 Which statement best describes a publication or database on academic journals that you would request the library to purchase?
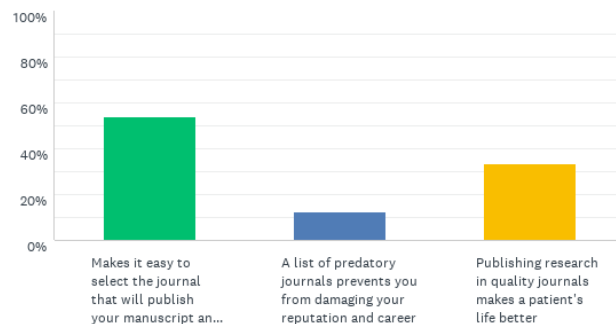
Q19 Which of the following services/tools which provide support or guidance on predatory journals have you attended or used? Please tick all that apply.
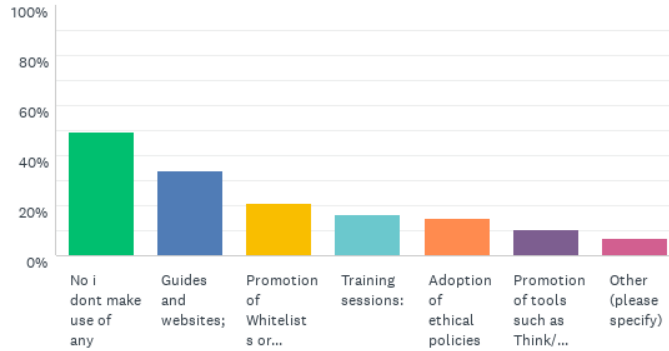
Q20 Are you personally aware of researchers who have published in predatory journals?
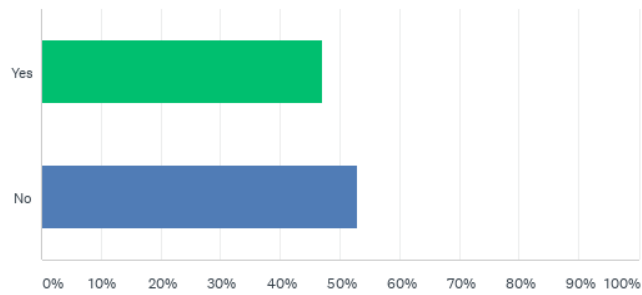
Q21 Do you think it is rare or commonplace in your field of research?
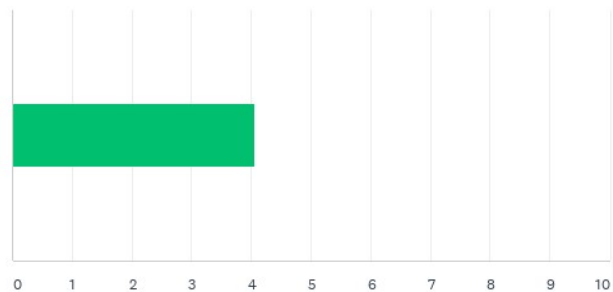
Q22 Why do you think researchers publish in predatory journals? Tick all that apply:
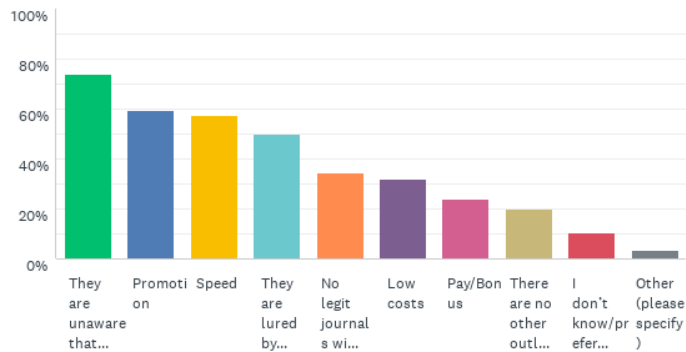
Q23 Publishing in predatory journals might lead to the loss of credibility in the published research of your organisation or university. Do you think there is a danger of a loss of credibility in your organisation?
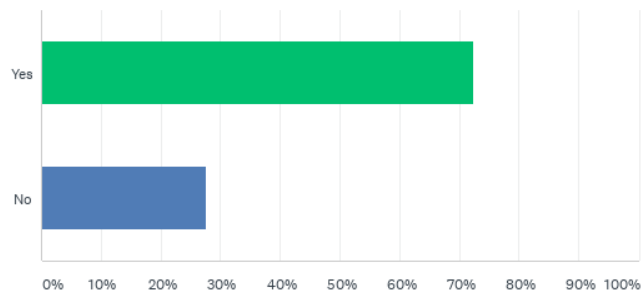
Q24 If so how do you think that should that be dealt with? (Tick all that apply)
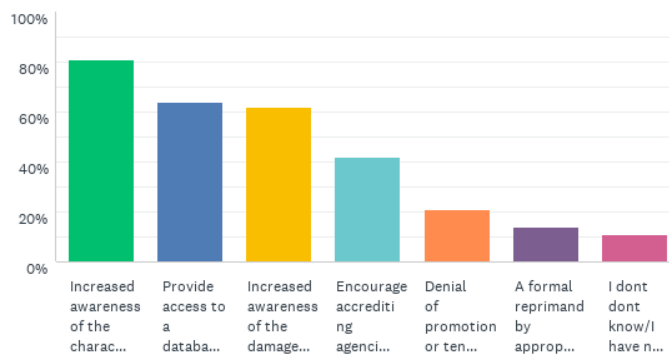
Appendix III

What other problems do you and/or your colleagues face in getting research published in reputable academic journals?

- not enough open access journals in my field of work - in my field of work with a special focus on health systems it is sometimes difficult to get data published in international journals ("only regional interest"), yet there are no middle or high impact journals in Germany
- The resources to pay the submission fee
1. The type of studies we held. We would like to submit to Q2, however Q2 ranked journals usually require clinical trials/prospective studies. The challenge is that in our country (Indonesia) it is difficult to obtain Ethics Committee approval to run a prospective study on drugs that have not to been proven to be safe in pediatric population (our field is Pediatric Nephrology). 2. Funding. Some Q2 journals have high rates of APC which is challenging for us to meet as the exchange rate of our currency (IDR) has dropped toward USD.
Absence of language editing services, high publication fees
All covered before, processing time is key
APC
APC is usually exorbitant These journals also take too long to review
Articles from authors in the Global South do appear to have a higher rejection rate.
At times we get manuscript rejection from a journal without the Editors giving any reason. Perhaps if they give reasons it will help us improve our future manuscript and get publication acceptance by the journal
Bias towards authors from LMICs. Their research is viewed as less rigorous and therefore easily rejected.
Cant choose True journal
Carry out quality research, write a good manuscript, find a good match for a quality journal, submit, it you fail go for 'plan B', which essentially repeats the same process
Cost, languages, acceptances for developing counters study problems for publication
Costs for open access quality of review, bias by editors/ass editors of their own work lack of embracing challenge of dogma
Costs of publication
Costs, Delay in publishing time
Data collection
Delay in review
Delay in reviewer response, especially when they are negative; money cost and visibility of the paper
De-moralising reviews by people who have failed to understand the nature of the

material that is submitted. Extremely long delays in processing the submission and then very tight timelines for submitting revisions.
Do not pass the Editor-in-chief step (not sent out to reviewers)
editorial bias against my field of research
fee
Financial barrier of cost in journals such as the BMC series
Finding reviewers, formatting issues, publication fee (extortionate) and limited funding for this particularly for work with minority groups
Formatting references etc. Failure of most/all journals to accept submissions written using open-source software (e.g. LibreOffice Writer); almost every journal eventually wants MS Word documents.
Fund to cover APC for open access journals are often unavailable to us.
Funding for APC
Funds to publish
Highly competitive and therefore success rate overall is around 20%. Determination and persistence are needed.
I am not familiar with such a website
I often have to rewrite papers from colleagues to conform with accepted norms for scientific papers
Identifying reviewers who are increasingly turning down (unpaid) reviewing duties
Inconsistent publishing standards Extended time periods
Institutional homophobia
invisible barrier
Lack of access for free English language edition.
Lack of objectivity of reviewers
Lack of recognition of research quality when it is conducted in a Mediterranean country
Lack of resources and to access to funding sources
Lack of understanding of qualitative research. Cost for open access.
Lack of understanding of some reviewers of the importance of a submitted research
length of time the manuscript is with reviewers
Lengthy review process
Long time before publication
Low acceptance rate.
Mainly paying a fee Writing
Maybe institution bias, e.g. authors based in developing world or similar
modify the expression in the manuscript more professional
my university has limited access to journals that I'm interested in. My university has no budget to support open-access publications
Need to upgrade research to the journal standard
Nepotism
Not being directed to a journal suitable for publication or not finding a suitable journal

Opinions of some reviewers. Sometimes they are not objective and does not think in the quality of the paper, only in personal opinions
Page fees are high. Editors taking responsibility to do first acceptance/rejection
Prohibitive cost of Open Access APCs
Publication fee
Publishing time
Quality of the article and novelty of the work.
Receiving reviews of low scientific quality; long review process. It seems like there is a general lack of good reviewers
Rejected because they like monotony in what they publish and don't actually like to question the status quo too much which creates a high barrier for new ideas. Also, journals like researchers who have been published lots making it an old boys club and difficult for young researchers. Blind review separate from credentials would be good for emerging researchers. Cost is a factor for some groups also.
Rejection with no substantial reason
Reviewers often appear not expert in the field they are reviewing
revision step
Right now, the adoption rate of specialized journals is going down and I'm forced to submit to multidisciplinary journals.
Since we are not from English speaking country, most of our works rejected due to this "native-alike" writing As ECR, I do not get enough support and supervision from the senior. They tend to compete with the ECR due to the competitive environment built by the university
Slow speed of response, and difficulty predicting it.
Small country with small research possibility, locally focused interested groups, needed cooperation with international teams mostly
Some of the reviews take too much time; some reviews take two years.
Sometimes I feel that researchers from Middle Europe ae being discriminated
sometimes the no credibility of the rejection motivation
Support on statistical models is poor. There is no textbook that I am aware of that says, "with this type of study, try to collect that type of data." And also, "with this type of data, use that type of statistical model." It's too bad that a practical handbook like this does not exist, so knowing what to do with the growing data that is out there is still a 'master and apprentice' type situation (*like learning math and science in the Middle Ages).
Surveys carried out in underdeveloped countries are general discriminated against
The cost of publication is often a barrier to submit to high impact journals in low resourced countries and universities such as mine
The main problem is the high publishing rate that we have to pay. The free-to-publish journal is always my first choice as we have a very low budget for publishing.
The quality of reviews. reviewers who don't have expertise in your method.
The regulation and budget allocation
The time delays and the high costs of open access publishing fees

The variable quality of reviewers who are often junior researchers and certainly not 'peer'. Too often reviewers feel it is their job to find fault regardless.
Time to write the papers
To pay for publication
Very high APC for open access
Very high fees for open access journals
Very slow review process
waiting time is most important factor to consider
We write paper relating to replacing, reducing and refining the use of lab animals, and reviewers sometimes struggle to 'get it'.
Weak visibility of Occupational health
Working in a relatively marginal field, without a lot of scholars with expertise

Appendix IV Researcher/Author Attitudes to Research Publishing (Health and Medical Science)

Competition between academicians and junior-senior researchers should be considered
I cannot see what the value of this survey is to the wider scientific community. The only think I can think of that is of value is for 'whatever company' is going to use this data to justify using lists of journals. This would only lead to greater confusion among publishing scientists if they were going to rely on such listings, because I am pretty sure that any journal can 'buy' their way to the top of the list. You have not presented any case of your impartiality.
I find that although predatory journals are expensive my colleagues from Africa frequently publish in these journals as there is still an attitude of "publish or perish" and they are evaluated by administrators who do not have a knowledge of the nature of the journal
I probably get about 100 emails a week in my spam folder from predatory journals asking me to submit. The problem is increasing significantly
I suppose there are big differences in between high- and low-income countries and big and small academic society
In the previous page, I said 'no' because I don't think anyone in our organization has published in a predatory journal. Kindly ignore that answer in case it was different question. No other comment.
It is monopolized by a cult like syndicate that do not recognize any work coming from region other than theirs. Scientific discrimination
Open journals that charge fees are annoying as I cannot afford to pay fees and discriminating between good and predatory journals is difficult. The large number of emails from dodgy or open journals is problematic. They fill my inbox and deleting them is a daily chore. It is therefore easy to accidentally delete an email from a reputable journal that does not charge fees - including requests to peer review.
Pressure on researchers to publish is an indicator of management deficits particularly when no local support is provided for researchers or publishing in their own field. Management over-emphasis on competitive grant seeking does little to develop researchers or publishing skills.
We publish a lot and spend time reviewing articles for free. This should remain the case. But reviews for journals should mean that articles submitted should systematically be sent to reviewers and automatically bypass possible refusal by unspecialized journal editors.
You are not asking for the paper of the reviewers

Appendix V Supporting Research Staff in Publishing Articles: what factors apply

Assessment of the quality of a journal from expert colleagues, where the journal is new of recently launched.
Author notoriété
check with pear/expert group
Easy submission process and transparency about the contractual condition
ERA journal list, industry journals.
Fast publication (Minimum time for review process)
History of journal, particularly whether it is in online or not
Honestly: many people look at prestige of the publisher at large and overestimate the trustworthiness of a big name. If we get deeper into discussions with researchers, they usually all have anecdotical evidence that renowned publishers might have questionable or low-standard journals
I think researchers need to remember to build the costs of publishing into their research bids .... they often seem surprised that Open Access publishing costs anything to them ...
If the feedback from the journal is fast or not
If the journal publishes similar articles
In South Africa, the Department of Higher Education and Training subsidizes research articles published in journals indexed by SCOPUS, WoS, IBSS, Norwegian list, Scielo and the national DHET journal list
It depends a lot on the individual and the type of research. Database indexing must be considered, as well as embargo periods (especially of Green OA). The views of the research community towards the journal (not just JIF/citations)
Journal contact details; organisation that owns/produces a title; match between claimed and actual exposure.
Journal readership and scope
Journal should subscribe to good international standards and practice, e.g. COPE, DOAJ, etc.
language
Language (for any authors)
Likelihood of acceptance, readership.
Peer reviewed Open Access Low APC
personal invitations
Research data journal policy
Some departments I cover are generally not high in impact factor, so it is far more relevant to consider readership (e.g. occupational therapy)
The APC (or no APC) is not the only question: how high the APC is, matters in Germany. Many university OA-funds are financed by the DFG and so must apply their eligibility criteria. There is a price cap of 2000 euro (incl. VAT) per article, which must be the price itself: invoice splitting is not allowed. Different rules apply for the BMBF Post-grant fund, although at first glance it seems similar: the limit is 2000 euro but invoice splitting is allowed and they will pay VAT on top of this sum. Of course, whether there is an APC and how high it is important for authors in need of funding.
The factors are generally specific to the individual researcher and the stage of their

career and can't always be generalised.
the journal publisher is it an organisation you are familiar with or you trust as reputable. If they make claims about indexing in services or impact factors are, they true?
The Language of the article in also important.
The tradition where to publish may be of importance in a research group, even if the factors from the beginning was based on time, impact factor etc.
There is a very wide span in opinions and knowledge among researchers in general, our organisation is no exception, which makes the answers above more a general guess. Some people chose journals because they met a nice editor at a conference, or because their mentor did, others do proper investigations.
Transparency i.e. in relation to editorial and peer review processes, publishing costs (incl page charges etc.) Alignment with a researcher's impact goals and the type of impact they wish their research to have, also to include things like global reach/international focus or practitioner focus etc.
Waivers to APCs
When selecting a journal authors are unaware of the existence of predatory journals
Where they are being told to publish - esteem within department

Appendix VI Supporting Research Staff in Publishing Articles; Final Comments

All the best ☺
Another perspective on predatory publishing is the HTA/systematic review perspective. I our organisation, we have recently had that discussion, whether we should automatically exclude articles from predatory journals or not. Though we haven't reached full consensus, we are coming towards the conclusion that we have to trust our own rigorous quality evaluation, rather than focusing on publication channel. Good quality material does occasionally get published in predatory journals by clueless (junior) researchers, and very bad research gets published in highly reputable, peer reviewed journals.   In some fields, certain journals carry stigma and it can be problematic for us to include in an overview, but in many fields it's only the most highly ranked journals that actually make a difference - the line between legit but low ranked and predatory is completely irrelevant, because neither actually matters that much.   To put it bluntly and perhaps slightly exaggerated, publishing and publishing quality is such a mess that educating consumers of research papers in evaluating research and standards for research methodology might be a more feasible option, that might hopefully have the spillover effect of raising overall quality.
better tools to be provide
Good Survey, Nicely driven questionnaire.
I do not work closely with Postgraduate research students, and I think they are most at risk of publishing in predatory venues (from what I've heard) - they're less experienced and feel under more pressure to get *something* published. To me a significant problem is that our HEIs continue to encourage frequent publication (e.g. due to annual reviews - researchers need to demonstrate that they have been productive every year) when actually fewer, higher quality articles will always be of most value. If we were able to make the decision of "actually the outcomes of this work were not very significant or robust, so I won't publish" - rather than be pushed to publish regardless, this would reduce that "cascade" of submitting to whatever publisher will accept the work.
I dont think we would be in a position to pay for a commercial product just for health journals. We already subscribe to products which provide a quality indicator across the disciplines. I believe it is a better tactic to teach authors to make educated judgements. They should be doing this when they read work, why are they not doing it when they publish.
I think that the phenomenon of journal cloning is important. Researchers confuse a predatory journal for the legitimate one of a similar name. Also, there is considerable pressure in the medical sector to publish in impact factor journals: this is where we focus our training, on how to find an impact factor on JCR WoS, and not to trust a journal website claim.
I'm aware this isn't an area I know a huge amount about.
IMPORTANT TO PROMOTE AFRICAN JOURNALS ONLINE
In my point of view, we could really benefit from analysis in the area where low publishing standards start to blur with unethical publishing behaviour. The real fraud is luckily rather rare, but the "almost fraud" harms just as much. It would be great to have more in-depth knowledge why researchers publish the way they do in order to seek prevention means.
In Question 11 an opción os missing: decisión of the library commitee
In regard to open access, it would be useful for publishers to have uniformity with the terminology they use.

It would be great if you could share the results

It would be interesting to be able to detect predatory journals so that users would know them and not publish them out of ignorance. they are so dangerous that in some cases they can alter important data in works like systematic reviews

It's important to have an ongoing dialogue with research groups and individual researcher so they can feel that the librarian/the library can be the support they sometimes need when it's time to choose a publishing channel. We are invited to a course called Scientific writing where we meet all of the research student - that´s really great! We have the opportunity to give advice in publishing strategies and often the research students feel trust in our advice and service so they feel welcome when questions arise in the future.

Lists of reliable journals are extremely susceptible to bias and should be avoided. Some predatory journals are very sophisticated and more needs to be done to make it easier for academics to identify them. However, in my 5 year career as a Research Support librarian I have only encountered two instances of an author publishing in a predatory journal, so I think most are capable of identifying and avoiding them.

More training and different awareness strategy could be shared for Librarians in Academic institutions to train their researchers and graduate students on that.

No. Interested to see Cabells offer. Would it be to the whole NHS or to consortia or individual organisations.

Re question about a white/ethical list- whilst I indicated I was interested in such a list I believe they date too quickly to be of much use. Predatory/unethical journals pop up all the time, reputable journals change editorial boards and become predatory, etc. In the past, especially with Beall's list, the selection process was hidden and quite literally based on an individual's opinion. If a list were to be made the selection process would have to be transparent and kept up to date very regularly

Research institutions such as universities should sign the DORA declaration, use responsible metrics for hiring/promotion and actively promote and award Open Science practices.

Seems to assume that people publish wherever, surely this means they have total control over what they spend money on? Funders would not allow this in my world,

Thankyou

This is a very interesting survey. It is very helpful for researchers for publishing articles in hi-qualities journals as well as Health Science Librarians for providing better guidance and services to researchers in publishing manuscripts.

This survey is welcome. It is necessary to raise awareness about the existence of predatory journals

Trop orienté

We are a very small Trust with low research. Primarily people publish case studies for CPD purposes or through known peer review. Cost of publishing is an issue - no funding for certain research methodologies is one that I come across relatively frequently. Most publications wouldn't pass our desk, but we monitor institutional publications. I am sure there are more doctors in training that would go for quick publication & people tidying up research they have been meaning to publish prior to retirement who may go for the most accessible channel.

We need to break the too strong relationship between evaluation criteria and publishing

What about the Right to Access Scientific Knowledge in a State of Emergency

Appendix VII List of Interviewees and contacts

Abby Chen	Publisher	China
Aline Pacifico Rodrigues	Research Manager	Brazil
Ana Baburamani	Researcher	UK/Australia
Andrew Smith	Agent	UK
Anna Merlo	Agent	Italy
Arnaud Tarantola	Researcher	France/Viet Nam
Bernie Garrett	Researcher	UK/Canada
Brian Parker	Publisher	UK
Cara Jones	Librarian	UAE
Anon	Publisher	USA
Chris Winchester	Consultant	UK/International
Ellen Schenk	Research Manager	Netherlands
G Mahesh New Delhi	Librarian	India
Gert Jan Geraeds	Publisher	China
Anon	Pharma Information	UK
Helen Tian	Agent	China
Ilaria Fava	Librarian	Germany/Italy
Imrana Ghumra	Librarian	UK
Jan W Schoones	Librarian	Netherlands
Jens Turp	Researcher	Switzerland/Germany
Judith Hagenbarth	Librarian	UK
Julie Bayley	Research Manager	UK
Karen Horn	Librarian Society	UK
Anon	Librarian Technical Library	Denmark
Katrine Sundsbo	Librarian	UK
Kevin (Qian Liu) and Colleagues	Publisher	China
Lindsay Snell	Clinical Librarian	UK
Loretta Atkinson	Librarian	Australia
Louw Hoffman	Researcher	Australia/Africa
Lu Chen	Publisher	China
Mami Matsuda	Expert	Japan
Anon	Information	Botswana

	Specialist	
Margo Bargheer	Librarian	Germany
Mark Garlinghouse	Consultant	Singapore
Matt Holland	Librarian	UK
Mehmet Mirat Satoğlu	Expert	Turkey
Mike Evans	Agent	UK
Mukesh Kumar Dhillon	Researcher	India
Anon	University Librarian	UK
Peter Bates	Researcher	UK
Philip Purnell	Agent	Middle east
Putri Nuzulu	Researcher	Indonesia
Qian Liu	Publisher	China
Rachel Moore	Researcher	UK
Ramune Kubilius	Librarian	USA
Rian Siam	Researcher	Egypt/US
Ruth Lawrence	Librarian	Australia
Sarah Slowe	Librarian	UK
Shinya Kato	Librarian	Japan
Simon Boisseau	Agent	Middle east
Simon Kerridge	Research Manager	UK
Sioux Cumming	Expert	UK/Africa
Sitki Atkas	Agent	Netherlands/Turkey
Sneha Rhode	Cabells	UK
Susan Smith	Librarian	UK
Syun Tutiya	Expert	Japan
Tanja Strom	Research Manager	Norway
Tao Tao	Consultant	USA/China
Tessa Pianizzi	Librarian	Italy
Tony Bocquet	Publisher	Japan
Tracey Clarke	Librarian	UK
Wan Xiong	Publisher	China

And CIBER Associates
Abrizah Abdullah is Dean of the Faculty of Computer Science & Information Technology, University of Malaya
Chérifa Boukacem-Zeghmouri is Full Professor in Information and Communication Science at Université de Lyon (Lyon 1 University)
Hamid R. Jamali Senior Lecturer at the School of Information Studies, Charles Sturt University, Australia
Jie Xu is Deputy Director of the Publishing Studies Department in the School of Information Management at Wuhan University, China