The Write Stuff

Boosting your writing into a higher orbit

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In this issue...

What is a PMCID and how do I get one?

-- Kathryn Hale

Any researcher who submits grant proposals to the National Institutes of Health (NIH) probably knows by now about the NIH Public Access Policy. This policy, which became mandatory in 2008, requires that the findings of any research supported by the NIH be made available to the public free of charge. The NIH created an online database called PubMed Central as a platform for researchers to share this information with the public. To comply with the Public Access Policy, researchers must submit any published report supported even partially by NIH funds for archiving in the PubMed Central database. This covers just about all research done at MD Anderson, since most research not directly supported by an extramural NIH grant is supported in some way through the Cancer Center Support Grant (CCSG; also called the “core” grant).

The PubMed Central database is administered by the NIH through the National Center for Biotechnology Information (NCBI). The NCBI assigns each article submitted to PubMed Central

a unique identifying number called the PMCID. The NIH now requires PMCID numbers on all references in grant applications that were authored by the applicant or that arose from NIH-funded research, both in the research plan and the biosketches. PMCID numbers are also required for all grant progress reports; an article that is covered by the Public Access Policy but does not have a PMCID may not be cited in any NIH report. The Cancer Prevention and Research Institute of Texas (CPRIT) now also requires submission to PubMed Central of articles reporting findings of CPRIT-funded research. Failure to obtain a PMCID under NIH or CPRIT policy may result in loss or denial of funding.

A note of caution: the PMCID is not the same as the PMID (see "Unusual terms used in scientific writing and publishing: PMID and PMCID" in the Spring 2017 issue of *The Write Stuff*). The PMID is the unique number assigned to articles included in PubMed, the sister database to PubMed Central. An article is automatically included in PubMed (and assigned a PMID) if it is published in a journal covered by PubMed. However, inclusion of an article in PubMed Central and assignment of a PMCID is not automatic. It is the responsibility of the authors of each article covered by the Public Access Policy to ensure that the article is submitted to PubMed Central and assigned a PMCID.

Submitting a manuscript and obtaining a PMCID

PubMed Central accepts only peer-reviewed articles published on or after April 7, 2008. Exempt from the Public Access Policy are books and book chapters, meeting and conference abstracts and posters, practice guidelines, editorials, correspondence, letters to the editor, and manuscripts in any language other than English. However, all of these types of publications do require a PMCID if they are to be cited in NIH reports.

Submitting an article to PubMed Central and obtaining a PMCID entails the following four steps:

(1) *Acknowledge:* When first submitting a manuscript to a journal, include an acknowledgement of all NIH funding (including CCSG funding). This is an extremely important step because it often makes the whole process much easier for the investigators. Many journal publishers, especially the larger, more established ones, will initiate the submission process automatically if they have this information. Without this step, it is still possible to get a PMCID, but the process is more complicated and must be initiated by the authors (see step 2).

(2) *Acquire:* This step is generally needed only if step 1 was not done or if a journal publisher does not offer automatic submission. The authors must ask the journal to submit the accepted manuscript to PubMed Central. Some journals will do this, some will not. If the journal will not, authors will have to submit the manuscript themselves. This entails entering supporting information and uploading the final Word version of the manuscript through the NIH Manuscript Submission (NIHMS) system.

(3) *Associate:* The PMCID status of each article should be checked in the NIHMS system to ascertain that each article is linked to each pertinent grant.

(4) *Approve:* Once the submission is ready to upload to PubMed Central, whether the author is submitting the article or the article is being submitted automatically by the journal, the author named as corresponding author must explicitly approve the submission via the NIHMS system. It is possible to change the author designated to do this approval and to designate a staff member to assist. Researchers should log in through eRA Commons, whereas staff members must use an NCBI account. The approval process is simple once the article pending approval is located in the database (search by PMID or approving author's name).

For help and more information

Fortunately, the Research Medical Library (RML) at MD Anderson is here to help with this process. Library staff can answer questions and troubleshoot if needed. For further information about the NIH Public Access Policy and obtaining a PMCID, see the April 2018 issue of *NewsBytes*, the RML newsletter, and the RML's website. The NCBI login page also has a link to a helpful YouTube tutorial.

Updates to ClinicalTrials.gov

– Stephanie Deming

For the first time since 2012, the National Library of Medicine (NLM) has substantially updated the design and features of ClinicalTrials.gov, a web-based resource containing information about privately and publicly funded clinical studies around the world (1). A key design change is that ClinicalTrials.gov pages now resize automatically to fit the display of the user's device (e.g., laptop computer, mobile phone). Some other key changes (1-3) are described below. Future changes will be summarized at https://clinicaltrials.gov/ct2/about-site/new.

In-context Glossary

The new in-context Glossary allows users to view Glossary entries without leaving a page. From anywhere within the ClinicalTrials.gov site, when a user clicks an "information icon" ("i" in a blue circle) next to a term, a Glossary panel with the entry for that term sweeps in as an overlay from the right side of the ClinicalTrials.gov window. The Glossary panel can be closed by clicking the "x" in the upper right corner of the panel.

Tip: Clicking the "x" at the right of the "Search for terms" box in the Glossary panel reveals an alphabetical list of all Glossary entries.

Search limits applicable on the home page

In the "Find a study" box on the home page, users can now limit searches to

- Studies that are currently recruiting or have not yet started recruiting.
- Studies with at least one location within a certain distance from a particular city (users can specify cities not only in the United States but also in other countries).

Enhanced Search Results page and option to download results

Several changes have been made to the Search Results page:

- "NEW" appears in the Status column for studies posted during the previous 30 days.
- At the top of the page, not only the search terms specified by the user but also synonyms of those terms used by the search engine are listed.
- Study locations can be listed (users can choose to show or hide this column).
- Search results can be downloaded to a PDF file or in a format compatible with common spreadsheet programs.

New Modify Search button on the Search Results page

The Search Results page now includes a Modify Search button. When a user clicks this button, a box opens that shows the parameters of the current search, and the user can modify parameters and then search again.

References

1. NLM Technical Bulletin 416, May-June 2017. https://www.nlm.nih.gov/pubs/techbull/mj17/mj17_clinicaltrials_improve_usability.html. Accessed April 12, 2018.

2. NLM Technical Bulletin 418, September-October 2017. https://www.nlm.nih.gov/pubs/techbull/so17/so17_clinicaltrials.html. Accessed April 12, 2018.

3. NLM Technical Bulletin 419, November-December 2017. https://www.nlm.nih.gov/pubs/techbull/nd17/nd17_clinicaltrials_enhanced.html. Accessed April 12, 2018.

EndNote Manuscript Matcher helps authors identify journals

– Amy Ninetto

In the summer 2012 issue of *The Write Stuff*, we reported on the tool JANE, which can help you select journals that best fit your manuscript. EndNote, whose reference-management software is used by many researchers, offers a similar tool called EndNote Manuscript Matcher.

Manuscript Matcher can be used by anyone with an EndNote Online account, which is free to MD Anderson faculty, staff, and trainees and takes only a minute to set up. If you already use EndNote's online features, you can use your existing account to access Manuscript Matcher. When you log in to EndNote Online, click on the "Match" tab to get started.

As with JANE, simply copy and paste your manuscript's title and abstract into the search boxes. If you use the online version of EndNote, you can also include your citations in the search, although this step is not required. Manuscript Matcher analyzes your manuscript's keywords, abstract text, and, if available, citations to return a list of 2 to 10 journals that have recently published articles on similar topics. Manuscript Matcher draws on thousands of journals in the Web of Science database, and it is particularly aimed at helping authors identify appropriate specialty publications rather than general journals with a broad readership.

The Manuscript Matcher results page provides several tools to help you refine your publishing strategy. A "match score" gives an overall sense of how well your manuscript matches articles published in each recommended journal. For more detail, you can also view keywords shared by your manuscript and published articles and a list of similar articles for each journal. The journals' current and 5-year impact factors are shown; Manuscript Matcher is a product of Clarivate Analytics, the publisher of Journal Citation Reports, which calculates impact factors. (JANE shows journals' Eigenfactor scores, a different measure of influence.) Manuscript Matcher also displays the ranking of each suggested journal in its subcategory (for example,

surgery or oncology), contact information for the publisher, and direct links to the journal's home page and submission page.

Because JANE and Manuscript Matcher can return somewhat different results, using both tools will increase the amount of information you gather about the range of candidate journals. Of course, it's always important to use your professional judgment when deciding where to submit a manuscript; be sure to review recent issues of your target journals and read the journals' aims and scope before making a final decision.

This video tutorial shows how to use Manuscript Matcher, and the Research Medical Library's webinar on open access publishing also has a demonstration of Manuscript Matcher beginning at about minute 31 of the video. Another resource is Scientific Publications' recent webinar on choosing a journal.

NIH grant applications: Where should the preliminary data go?

– Sunita Patterson

For most NIH grants, it's important to include preliminary data. But what part of the Research Strategy is the best place to include these data: the Significance section or the Approach section?

The NIH does not require this information to be in a particular section. The SF424(R&R) application guide says, "As applicable, also include the [Preliminary Studies/Progress Report] as part of the Research Strategy, keeping within the three sections (Significance, Innovation, and Approach) listed above."

The trend in NIH grant writing over the past decade was to write a Significance section of less than 1 page, an Innovation section of about half a page to 1 page, and a roughly 10-page Approach section that included detailed background information and preliminary data to provide justification for each specific aim.

However, the NIH's changes to its application instructions that took effect in January 2016 have brought a shift in thinking about where to include the background information and preliminary data. The following point was added to the instructions for the Significance section: "Describe the scientific premise for the proposed project, including consideration of the strengths and weaknesses of published research or preliminary data crucial to the support of your application." Meanwhile, the instructions for the Approach section remain focused on strategy, methodology, analyses, and feasibility.

According to the NIH's Rigor and Reproducibility web page, the scientific premise is "the research that is used to form the basis for the proposed research question(s)"—in other words, the research foundation for the proposed study. To convey this foundation, it makes sense to present the background information and preliminary data in detail. Thus, Grant Writers' Seminars and Workshops, a group that has presented many seminars at MD Anderson, now recommends putting most of this information in the Significance section (1). We agree with their recommendation.

Note that the NIH is asking for a critical discussion of the previously published research and preliminary data: their strengths and weaknesses. Thus, include comments on the rigor of this previous work, and be sure your proposed study design addresses the weaknesses (where appropriate).

Following this model, the Significance section may be 3 or 4 pages—longer than was typical in the past. Within this longer section, be sure the information about the importance and impact of the project doesn't get buried. You can help the reviewer find it by using subheadings and emphasizing key phrases using italics, bold text, or highlighting.

Although we recommend that most of the background information and preliminary data appear in the Significance section, it is still appropriate to include some of this information in the Approach section. For example, for each specific aim, we recommend writing an introductory paragraph that concisely summarizes the rationale for the aim; here you could mention the relevant background information and preliminary data in brief and refer reviewers to the Significance section for details.

Also, if you need to show the feasibility of an aim, showing that you have performed preliminary studies using similar methods is a strength. If the studies were described in support of your scientific premise, you can mention them in brief in the Approach section and refer reviewers to the Significance section for the details. However, if you are mentioning previous work only to establish that you have performed similar experiments, it may make sense to describe that work in the Approach section.

The Scientific Publications web site includes a detailed outline for one model of writing an R01 application, drawn from the recommendations of Grant Writers' Seminars and Workshops. However, the specific nature of your project may dictate a different flow of information. The primary goal should be to present the information in a logical order that makes it easy for the reviewer to understand your project.

Scientific Publications editors are happy to edit your grants and offer suggestions about the flow of information and readability. This is a free service, but it is helpful to preschedule editing. We also present free day-long R01 grant-writing workshops for faculty.

Source

1. Robertson JD, Russell SW, Morrison DC. *The Grant Application Writer's Workbook,* NIH version. Buellton, CA: Grant Writers' Seminars and Workshops, 2017.

Unusual terms used in scientific writing and publishing: *h*-index

– Bryan Tutt

If you've ever written a paper for a scientific journal, you probably considered the journal's impact factor before submitting your paper. The impact factor, a measure of how often a journal's articles are cited (1), is important because researchers are often judged by the number of articles they publish in high-impact journals. But the impact factor was intended to assess journals, not researchers (2). Other metrics have been developed to evaluate scholarly authors on the influence of their work. The most commonly used of these metrics is the *h*-index.

The *h*-index for a particular author is the number (*h*) of articles that have been cited at least *h* times (3). For example, if an author wrote 1 article that was cited 6 times, 1 cited 5 times, 1 cited 3 times, and any number of articles cited fewer than 3 times, the author's *h*-index would be 3 because he or she had 3 papers that were cited 3 or more times. The *h*-index can be calculated for an author's entire career or for a specified number of years.

An *h*-index can be obtained from several sources. The most commonly used sources are Scopus , Google Scholar, and Clarivate. All three sources can be accessed through MD Anderson's Research Medical Library. Other specialized *h*-index calculators are available that focus on journals for a particular field of study.

Many academic institutions provide *h*-indexes and other analytics for their faculty members. The University of Texas uses the Influuent database, which provides the *h*-index from Scopus for faculty members and fellows.

The *h*-index is not a perfect metric. One problem is that not all indexing services have access to data from every journal, so an author's Scopus and Clarivate *h*-indexes might not be the same. Another weakness of the *h*-index is that, in papers with multiple authors, it does not account for the order in which the authors' names are listed: each author gets the same credit, even though the first author may have contributed much more to the research and writing than the other authors. The *h*-index also does not account for seminal papers that may be cited hundreds or even thousands of times: if an author wrote a total of 10 papers, 1 paper that was cited 1,000 times, 1 cited 900 times, and 8 cited 10 times, his or her *h*-index would be only 10.

To address the *h*-index's shortcomings, several modifications and alternatives to the *h*-index have been proposed (4). However, the *h*-index is still used to evaluate candidates for hiring or promotion in many academic institutions.

References

1. Tutt, B. Unusual terms used in scientific writing and publishing: Impact factor. *The Write Stuff*. Summer 2015.

2. Marks MS, Marsh M, Schroer TA, Stevens TH. Misuse of journal impact factors in scientific assessment. *Traffic*. 2013;14:611–612. doi: 10.1111/tra.12075.

3. Hirsch JE. An index to quantify an individual's scientific output. *Proc Natl Acad Sci U S A.* 2005;*102*:16569–16572. doi: 10.1073/pnas.0507655102.

4. Alonso S, Cabrerizo FJ, Herrera-Viedma E, Herrera F. *h*-index: A review focused in its variants, computation and standardization for different scientific fields. *Journal of Informetrics*. 2009;3:273–289. doi: 10.1016/j.joi.2009.04.001.

Upcoming events for authors

Please see the Scientific Publications website for more information on our educational courses.

Writing and Publishing Scientific Articles (WAPSA). WAPSA is a structured, practical, in-depth writing-education program for postdoctoral fellows and clinical trainees of MD Anderson taught by the Department of Scientific Publications. This 16-contact-hour course provides an excellent opportunity for advancing participants' skills in writing and publishing research articles while developing their in-progress manuscripts under the guidance of scientific editors.

Locations and times to be announced. Registration is required through the Department of Scientific Publications. Details: John McCool (scipubseducation@mdanderson.org), 713-792-3174.

May 3 and 10, 2018

September 13 and 20, 2018

November 6 and 13, 2018

Short Courses in Scientific English for Non-Native Speakers of English. Courses last 7 weeks and meet twice a week for 1 or 1.5 hours each day. Classes are held early in the morning, during the lunch hour, or late in the afternoon. Classes are free of charge. Participants must speak English at the intermediate or higher level and be familiar with research and general biomedical terminology.

Dates are subject to change. Registration is required through the Department of Scientific Publications and will run May 23 through June 26.

Details: Mark Picus (mapicus@mdanderson.org), 713-792-7251, or John McCool (scipubseducation@mdanderson.org), 713-792-3174.

Session 4 – July 25 through September 17, 2018

Pronunciation 2, Conversation 1, Conversation 2, Pronunciation Workshop, Writing 1

Friday Conversation Group. The Friday Conversation Group provides an informal atmosphere for non-native speakers of English to practice their conversational abilities, learn more about American culture, and meet new friends. The class meets every Friday in the Mitchell Building (BSRB), room S3.8003, from 12:00 to 1:00 pm.

No registration is required. Details: Mark Picus (mapicus@mdanderson.org), 713-792-7251, or John McCool (scipubseducation@mdanderson.org), 713-792-3174.

Third Thursday Writing Retreat. The Department of Scientific Publications and the Research Medical Library are sponsoring afternoon writing retreats for faculty and trainees. These retreats, offered the third Thursday of every month from 12 to 4 pm in the Research Medical Library conference room (FCT21.6040), allow 4 hours of protected time for researchers to work on their grants and manuscripts. A scientific editor is present the entire time to answer

questions, offer advice, and provide consultations on early drafts. (A separate room is available for lengthy consultations.) A librarian is also present to help with literature searches, reference formatting, EndNote issues, etc. *Details: John McCool (scipubseducation@mdanderson.org), 713-792-3174.*

May 17, 2018

June 21, 2018

July 19, 2018

Writing Persuasive R01 Proposals. This grant-writing workshop for clinical and basic science research faculty at MD Anderson focuses on the content, organization, and structure of an R01 grant application. Taught by senior editors in the Department of Scientific Publications, this 1-day workshop includes lecture, discussion, and guided grant outlining and development.

Locations and times to be announced. Registration required through the Department of Scientific Publications. Details: John McCool (scipubseducation@mdanderson.org), 713-792-3174.

June 12, 2018

November 8, 2018

Writing Scientific Articles (WSA): A Workshop for Faculty. WSA is a structured, practical, in-depth writing-education program for clinical and basic science research faculty of MD Anderson taught by the Department of Scientific Publications. This 1-day, 8-contact-hour course provides an excellent opportunity to advance your skills in writing research articles with focus and clarity.

Locations and times to be announced. Registration is required through the Department of Scientific Publications. Details: John McCool (scipubseducation@mdanderson.org), 713-792-3174.

July 18, 2018

October 10, 2018

Scientific Publications Now Charging No-Show Fees. Scientific Publications' popular full-day courses—Writing and Publishing Scientific Articles, Writing Scientific Articles, and Writing Persuasive R01 Proposals—are available to MD Anderson faculty and trainees free of charge. For many courses, we have more applicants than spaces available; and sometimes those accepted do not show up for the courses. Therefore, to ensure that as many faculty and trainees as possible can participate in our courses, we implemented a new cancellation/no-show policy. Registrants are able to drop a course without penalty until a specified date and time (typically 2 work days before the course begins), but those who do not withdraw from the course by that deadline and who do not show up for the course will be charged $95 to the chart string provided at the time of registration.

Webinars Presented by the Department of Scientific Publications. The Department of Scientific Publications continues to host a series of webinars on various topics, including the following:

- **Navigating the Peer Review Process – May 23, 2018, 11:30 am**

  In this webinar, Erica Goodoff, a scientific editor in the Department of Scientific Publications, will talk to Dr. Shine Chang, a professor in the Department of Epidemiology and the director of the Cancer Prevention Research Training Program, about navigating the peer review process used by biomedical journals.

Dates and times, as well as links to upcoming webinars, will be posted as they become available on the Department of Scientific Publications website and in the department's "Educational Events" newsletter.

The following webinars have already been presented and recorded:

- **Choosing a Journal** (presented March 20, 2018)

  In this webinar, Stephanie Deming, a senior scientific editor in the Department of Scientific Publications, discusses strategies for selecting a journal and avoiding disreputable journals. A recording of the webinar is available.

- **Creating Effective Graphs** (presented January 31, 2018)

  In this webinar, Sunita Patterson, a senior scientific editor in the Department of Scientific Publications, reviews the fundamentals of good graph design and data presentation. A recording of the webinar is available.

- **Addressing ESL Issues in Scientific Writing** (presented November 9, 2017)

  In this webinar, Mark Picus, PhD, training specialist, and Ann Sutton, scientific editor, both in the Department of Scientific Publications, discuss some of the challenges in scientific writing that scientists who trained at institutions outside the United States are likely to encounter as they transition to working at a U.S.-based institution. A recording of the webinar is available.

- **Avoiding Wordiness** (presented October 4, 2017)

  In this webinar, Don Norwood, a scientific editor in the Department of Scientific Publications, explains how to identify wordiness—the use of too many words to express an idea—and shares strategies for eliminating it from scientific writing. A recording of the webinar is available.

- **Ask the Editors** (presented July 26, 2017)

  In this webinar, two editors in the Department of Scientific Publications field questions about writing, editing, and publishing. A recording of the webinar is available.

- **Avoiding Plagiarism and Self-Plagiarism** (presented April 19, 2017)

  In this webinar, two scientific editors in the Department of Scientific Publications discuss the pitfalls of plagiarism, how plagiarism is detected, and how authors can avoid plagiarizing. The concept of "self-plagiarism" is also discussed. A recording of the webinar and the webinar slides are available.

- **Creating Effective Tables** (presented January 19, 2017)

  In this webinar, Joe Munch, a scientific editor in the Department of Scientific Publications, discusses when to use a table, the elements of a table, some basic principles of effective table design, and how to use Microsoft Word to design a clear and useful table. A recording of the webinar and the webinar slides are available.

Grant Writing Advice. The Department of Scientific Publications now offers grant writing suggestions (Writing R01 Grant Proposals) in the Writing Advice section of our website. This information, stemming from the Grant Writers' Seminars and Workshops (developed by Drs. Stephen Russell and David Morrison and presented annually at MD Anderson) and from the NIH's SF424 (R&R) Application Guide, focuses on R01 grants but can be applied to other types of NIH grants as well.

Writing the Specific Aims Section of a Grant Application. In this video, Sunita Patterson, senior scientific editor, presents a summary of the National Institutes of Health's grant-review process and how it affects the grant proposal, an overview of the structure of an R01 grant proposal, and a model for writing the Specific Aims section. The video is available on the Scientific Publications website.

Writing Abstracts Online Tutorial. Writing Abstracts, an interactive, Web-based tutorial, covers the most important aspects of writing good abstracts. The lesson includes many examples and an optional self-assessment.

Improve Your Chances for IRG Funding. This PDF presentation by Walter Pagel, the former Director of the Department of Scientific Publications, guides researchers through the process of applying for institutional research grants.

Anatomy of a Research Article Video Presentation. In this video, Stephanie Deming, senior scientific editor, presents advice on writing the parts of a research article: Introduction, Methods, Results, Discussion, title, and abstract. The slides shown in the presentation and the presentation handout can be downloaded as well.

Classes and Webinars Presented by the Research Medical Library. More classes will be posted on the Research Medical Library website once they have been finalized.

Classes are located in the Research Medical Library classroom in the Pickens Academic Tower (in either FCT21.6008 or FCT21.6040). Details: Laurissa Gann (lgann@mdanderson.org), 713-794-1111.

May 2, 10:00 am, class: Introduction to Systematic Reviews

May 7, 1:00 pm, class: The Educator's Guide to Copyright & Fair Use

May 8, 11:00 am, class: EndNote Basics

May 15, 11:00 am, class: EndNote Advanced Tips

May 23, 11:00 am, class: PubMed Basics

To register for a Research Medical Library webinar or class, please visit the library's Class Calendar. When you click on a webinar or class link on the calendar, you will be directed to a registration screen. Also at this site are class and webinar descriptions and printable handouts.

Special Sessions Presented by the Research Medical Library. The library is offering special sessions for groups and departments this summer. Librarians are available to present a short informational session or a full class on EndNote, PubMed, the NIH Public Access Policy, and more.

Details: Laurissa Gann (lgann@mdanderson.org), 713-794-1111.