

# Librarians have an essential role to play in addressing biomedical research reporting and reproducibility issues

## Can you help?

Serious concerns have been raised about the robustness of biomedical research studies and their resultant publications.

Potential solutions and recommendations have been much discussed, including in the [Lancet Waste Series](#)<sup>1</sup> and in the [Manifesto for Reproducible Science](#)<sup>2</sup>.

At the [EQUATOR Network](#)<sup>3</sup> we believe that **biomedical librarians have a key role to play in helping to address these fundamental concerns.**

<p style="text-align: center;"><b>Take action to support the Lancet Waste Series and the Manifesto for Reproducible Science</b></p> <p style="text-align: center;"><b>Ideas for targeted library actions</b></p>	<p style="text-align: center;"><b>Action supports Lancet Waste Series</b></p>	<p style="text-align: center;"><b>Action supports Manifesto for Reproducible Science</b></p>
<p><b>Research protocols</b></p> <p>* Highlight the importance of protocols, guidelines for writing protocols (e.g. SPIRIT) and encourage researchers to make their protocols publicly accessible.</p> <p><b>Suggested actions</b></p> <p><b>Promotion:</b> highlight and link to guidelines and initiatives on library websites, Libguides, leaflets, bulletins, social media.</p> <p><b>Training:</b> hold/incorporate into existing workshop/training session.    <b>Researcher support:</b> mention to researchers/faculty during consultations.</p> <p>* Help researchers to identify ongoing studies investigating the same or a similar research topic to avoid duplication.</p> <p><b>Suggested actions</b></p> <p><b>Researcher support:</b> establish a literature search service specifically targeting development of study protocols or analysis plans.</p>	<p>✓</p>	
<p><b>Research study registration</b></p> <p>* Promote research study registers for example for clinical trials (e.g. clinicaltrials.gov) or systematic reviews (e.g. PROSPERO), the benefits of registering studies, and the requirements for reporting on study completion.</p> <p><b>Suggested actions</b></p> <p><b>Promotion:</b> highlight and link to guidelines and initiatives on library websites, Libguides, leaflets, bulletins, social media.</p> <p><b>Training:</b> hold/incorporate into existing workshop/training session.</p> <p><b>Researcher support:</b> mention to researchers/faculty during consultations; insist on study registration before providing help with literature searches.</p>	<p>✓</p>	<p>✓</p>
<p><b>Research design and conduct</b></p> <p>* Highlight resources supporting research study design, standards for conducting research and research ethics, including guidance and courses (e.g. IRB, NIH).</p> <p><b>Suggested actions</b></p> <p><b>Promotion:</b> handouts; include links on library website, bulletins, on social media, Libguide.    <b>Researcher support:</b> discuss with researchers during consultations.</p> <p><b>Training:</b> initiate joint workshop with the local Research Ethics Committee or Research Services Department.</p> <p>* Support training in statistics and research methods</p> <p><b>Suggested actions</b></p> <p><b>Promotion:</b> prepare handouts; Libguide.    <b>Training:</b> work with faculty to organise specific joint workshops/training sessions.</p> <p><b>Researcher support:</b> provide/sign post to research methods support; discuss with researchers/faculty during consultations.</p>	<p>✓</p>	<p>✓</p>

<p><b>Research reporting</b></p> <p>* Promote reporting guidelines (e.g. CONSORT, PRISMA, STROBE), how to find them and how they can be easily used for planning and writing research papers.</p> <p><b>Suggested actions</b></p> <p><b>Promotion:</b> new leaflet/poster; Libguide; inclusion of hyperlinks on library website, in bulletins, social media.</p> <p><b>Training:</b> hold reporting/publication workshops; work with faculty to ensure that reporting guidelines are included in course content.</p> <p><b>Researcher support:</b> mention to researchers/faculty during consultations; when providing the results of literature searches advise researchers on the appropriate reporting guideline to use to write up their study; work with institutional Writing Centres/Scholarly Communications Managers to raise awareness.</p>	✓	✓
<p><b>Literature searching</b></p> <p>* Promote involvement of methodologists, including librarians, in the planning and design of proposed studies (lit search, documentation and reporting).</p> <p><b>Suggested actions</b></p> <p><b>Researcher support:</b> work with faculty and Research Services/Grants Offices to promote the involvement of and demonstrate the value of librarians being involved in the research team from study inception and the range of support they can provide to researchers and Research Services Departments.</p> <p>* Promote librarian-led identification of existing evidence in support of grant applications and before new research is instigated (ensuring new research addresses uncertainties rather than duplicating previous work).</p> <p><b>Suggested actions</b></p> <p><b>Researcher support:</b> work with faculty and Research Services/Grants Offices to support grant applications and the planning and design of proposed studies.</p>	✓	✓
<p><b>Supporting systematic reviews</b></p> <p>* Encourage researchers to obtain the protocols (if available) for included studies to check the protocol corresponds to the content of the published paper.</p> <p><b>Suggested actions</b></p> <p><b>Training:</b> workshop/training session. <b>Researcher support:</b> mention to researchers/faculty during consultations.</p>	✓	
<p><b>Open access / institutional repositories / scholarly communication</b></p> <p>* Recommend open access journals to researchers and provide advice on open data initiatives, software etc.</p> <p><b>Suggested actions</b></p> <p><b>Promotion:</b> Libguide; add links to website, bulletins, social media. <b>Training:</b> hold joint workshop with Research Data/Scholarly Communications Manager.</p> <p><b>Researcher support:</b> highlight to researchers/faculty during consultations.</p> <p>* Advocate the registering, archiving and deposit of final research reports (and unpublished research materials) in online institutional repositories.</p> <p><b>Suggested actions</b></p> <p><b>Promotion:</b> posters; Libguide; links in bulletins, social media. <b>Researcher support:</b> work with institutional Research Data/Scholarly Communications Teams.</p> <p>* Highlight the issue of retractions as researchers are often unaware of retraction notices posted on publisher websites or in bibliographic databases.</p> <p><b>Suggested actions</b></p> <p><b>Promotion:</b> launch a current awareness service specifically highlighting retracted papers.</p> <p>* Promote the role of initiatives such as PubMed Commons in driving up research standards, including the reporting and reproducibility of literature searches.</p> <p><b>Suggested actions</b></p> <p><b>Training:</b> include in workshop/training session. <b>Researcher support:</b> discuss with researchers/faculty during consultations.</p>	✓  ✓  ✓	✓    ✓

## References

1. Research: increasing value, reducing waste, The Lancet Series. <http://www.thelancet.com/series/research>
2. Munafò MR et al. A manifesto for reproducible science. Nature Human Behaviour.2017;0021. <https://www.nature.com/articles/s41562-016-0021>
3. The EQUATOR Network <http://www.equator-network.org/>  
The EQUATOR Librarian Network <http://www.equator-network.org/librarians/>

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