

Foundations of Scholarly Writing Session 1

*What should I write about?
Where can I publish?*

Anne Marie Weber-Main, PhD

Anne Joseph, MD, MPH

Office of Faculty Affairs and Diversity

Department of Medicine

Today's Outline

1. Identify a broad range of academic work that can (and should) be published
2. Select an appropriate journal and article category for a manuscript
3. Understand the manuscript review process at journals
4. Adhere to ethical principles in publication



Why is it important to publish?

- Disseminate your research findings to the community
- Make a contribution to the field of study
- Influence policy
- Career advancement



What do I have to write about?

Study Designs

- **Observational**
- **Experimental**
- **Quality Improvement**

Data Sources

- **Primary data collection**
- **Secondary data analysis (existing data)**
 - Study datasets
 - “Administrative data”



Step 1: Identify Opportunities

- What projects or innovation are you engaged in?
- What is your role?
- How interested are you in this topic/area?



Example 1: Tracking duty hour violations

1. Current knowledge

- Resident duty-hour restrictions introduced by ACGME
- Usually tracked by resident self-report

2. Unknown, question:

- Is resident self-reporting of duty hours valid? (concerns about recall bias, intentional misreporting)
- Is time-stamped automatic data collection better?

3. Methods

- Retrospective observational study
- Compare RMS to parking card data

Existing Data

4. Results, implications

- Significantly higher number of duty-hour violations in parking card data than in self-reported RMS data.

Example 2: Diagnosis of OAD

1. Current knowledge

- FEV₁/FVC ratio is most commonly used measurement in United States for diagnosing OAD
- Obesity can decrease a patient's vital capacity

2. Unknown, question:

- Specific impact of body mass index (BMI) on measures of FVC and SVC is not well described.

3. Methods

- Retrospective review of pulmonary function tests
- Analyses to assess effect of BMI on measures of VC

**Existing
Data**

4. Results, implications

- Difference between FVC and other measures of VC depends on BMI
- Use of FEV₁/FVC may lead to underdiagnosis of obstructive airway disease in overweight and obese individuals

Example 3: POCUS curricula

1. Current knowledge

- Ultrasound is a valuable tool in the safe performance of procedures.
- Emerging use for point-of-care assessment by internists

2. Unknown, question:

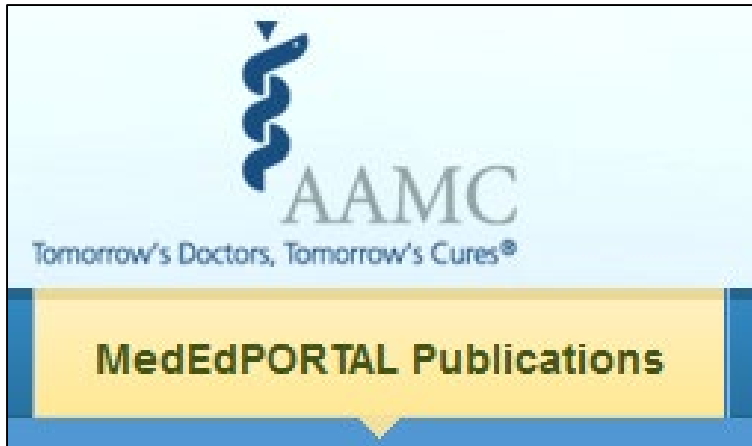
- We don't know
 - which ultrasound applications internists believe are the most useful,
 - what ultrasound skills internal medicine residency programs are teaching to trainees
 - what barriers may exist to the teaching or use of ultrasound in training settings.

3. Methods

- 27-question survey administered to APDIM members

New Data

Peer-reviewed repositories for curricular materials



<https://www.mededportal.org/>

- “Stand-alone,” complete
- “Classroom” tested
- Ready for implementation by other users
- Cited as peer-reviewed product



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Example 4: QI Intervention

1. Current knowledge

- Effective management of patients with diabetes mellitus (DM) can be time-consuming and costly.

2. Unknown, question:

- Can using the electronic medical record to automatically generate reminder letters (for patients not meeting recommended DM targets) improve practice-level quality metrics for DM management?

3. Methods

- 15 month QI Intervention, EMR-generated letters
- Analyzed changes in cross-sectional, practice-level, quality metrics for DM care at four time points: 6 months before the intervention, start of the intervention, end of the intervention, and 6 months after intervention

4. Results, implications

- Intervention was associated with modest improvements in several, but not all DM measures

Good News for QI

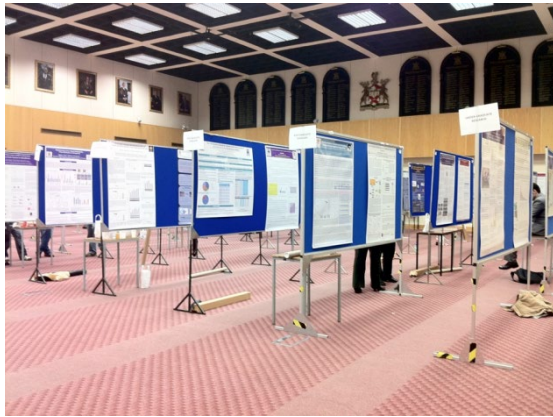
- Institutions and journals starting to recognize QI as important scholarship
- SQUIRE guidelines: <http://www.equator-network.org/>
 - Immediate goal: Increase completeness, precision, transparency of published QI reports
 - Ultimate goal: Encourage publication of more and better QI reports

SQUIRE International Writing Conference November 17-18, 2015, Dartmouth

- Learn about SQUIRE 2.0...What's new, emerging, challenging?
- Learn how to design, run, and sustain a writing group for local QI work
- Employ writing techniques applicable for scholarly improvement writing
- ***Work on developing your writing skills and advance your own manuscript***

Other sources of ideas for what to write about

- Professional meetings



- Conversations with colleagues, listserves
- Journal tables of contents – topics, article types



Article Types – e.g. JAMA

Author Initiated and Submitted

- Original Investigation
- Clinical Trial
- Meta-analysis
- Caring for the Critically Ill Patient
- Brief Report
- JAMA Clinical Challenge
- Viewpoint
- A Piece of My Mind
- Letter to the Editor (not PR)
- Letter in Reply (not PR)
- Research Letter
- Special Communication
- Poetry and Medicine



Pre-submission Inquiry and Discussion with Editor

- Clinical Crossroads
- Review
- Grand Rounds
- JAMA Clinical Evidence Synopsis
- JAMA Diagnostic Test Interpretation
- The Rational Clinical Examination

Pediatrics

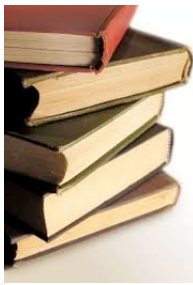
Ethics Rounds

- Discussions of cases that illustrate ethical dilemmas in patient care, research, or administration.
- Must contact assistant editor before submission.

Quality reports

- *Purpose:* add to understanding of how to improve quality in clinical settings.
- *Content:* describe the change process, whether successful or unsuccessful, and insights regarding why planned interventions did or did not lead to improvement.





Step 2: Write Purpose Statement/Question

- What is your innovation?
- What specific problem are you solving?
- What specific questions do you want to answer?



Step 3: Review the literature

- What is already known?
- What are others doing?
- What have others reported?
- How will your project contribute to what is already known/reported?
- What is your angle?
 - piece of the puzzle



But before you get too far in deciding your approach to answering your questions or testing your innovation...



Give your idea “the sniff test”



1. ***So what?*** Will it make a real contribution to the literature (vs “*litter-ature*”)
2. ***Who cares?*** (stakeholders, applicability)
3. ***What venue?*** (journals, other peer-reviewed repositories)

The successful publication will:

- (1) Have a clear, focused main message
- (2) Reach an audience that needs or wants to hear that message.



Writing as a team sport

Potential advantages include:

- Workload is shared.
- Leverage complementary skills
- New ideas and perspectives enrich the text
- Writer has more interaction, less isolation
- New writers can be mentored



What are editors looking for?

- Importance
- Originality
- Relevance to readers
- Usefulness to readers and, ultimately, to patients
- Truth
- Excitement/ “wow” factor
- Timeliness
- Clear and engaging writing

Where to Publish?

- Scientific journals
- Conferences and workshops
 - Conference proceedings
 - Posters
 - Talks
- Books
- Book chapters
- Technical reports
- Seminar presentations
- Popular science magazines

Scientific Journals

- Most effective way to inform the scientific community about your work
- Scientists' important productivity outcomes (measure for hiring, tenure, promotion),
- Rely on anonymous review by peer scientists
- Involve a long delay from submission to publication
- May require several submissions to different journals

What is peer-review?

- Review by peers
- Includes:
 - internal review (by editorial staff)
 - external review (by experts in the field)
- Importance of peer-review process: **validation**

How to pick a journal

- Peer-reviewed
- Aim & scope
- Readership (e.g. general vs. subspecialty)
- Impact Factor (flawed but useful)
- Reputation of the journal
- Types of submissions accepted
- Editorial Board, previously published authors
- Speed to publication
- Accept / reject rates
- Talk to colleagues
- Where are articles similar to yours published?

Problems with peer review

- Means different things at different journals
- Slow
- Expensive
- Subjective
- Biased
- Open to abuse
- Poor at detecting errors
- Almost useless at detecting fraud



University of Minnesota Medical School

QUICK DROPDOWN CUSTOM REPORTS

Francis, Gary

<i>h</i> -index	<i>h</i> (<i>n</i>)-index	Total Publications	First/Last Author Publications	Total Citations	First/Last Author Citations
71	33	413	245	24783	5771

[Click to load full profile →](#)

<http://tools.lib.umn.edu/sbraun/manifold-medschool/index.php>

Impact Factor

- In a given year, the impact factor of a journal is the average number of citations to those papers that were published during the two preceding years.
- For example, 2003 impact factor:
 - A = # of times articles published in 2001 and 2002 were cited by indexed journals during 2003.
 - B = total number of "citable items" (articles, reviews, proceedings) published in 2001 and 2002.
 - 2003 impact factor = A/B
- Publications in journals with high impact factors are thought to be more prestigious.
 - Nature: 31.4
 - Vision Research: 2.1
 - Typically, impact factors > 1 indicate "good" journals

Article format basics

There are rules for each format that vary by journal

- Original investigation
 - Clinical trial
- Brief report (1000-1500 words)/Research letter (600 words)
- Meta-analysis (or “Review”)
- “Clinical challenge” (~“Case Report”)
- Letter to the editor (not peer reviewed)
- Commentary
- Viewpoint
- Invited papers including editorials (some peer-reviewed, others not)
- Chapters (not peer-reviewed)

Keep your own list

Example: Tobacco research RCTs

- *NEJM*
- *JAMA*
- *Lancet*
- *JAMA Internal Medicine*
- *Annals of Internal Medicine*
- *American Journal of Public Health*
- *Preventive Medicine*
- *Addiction*
- *Addictive Behaviors*
- *Tobacco Control*
- *Nicotine and Tobacco Research*
- *American Journal of Health Promotion*
- *Tobacco Induced Diseases*
- *Tobacco Use Insights*

Helping you find and use the best evidence
Evidence-Based Practice for Public Health

[Home](#) | [Evidence-Based Resources](#) | [Public Health Journals](#) | [Public Health Databases](#) | [Abo](#)

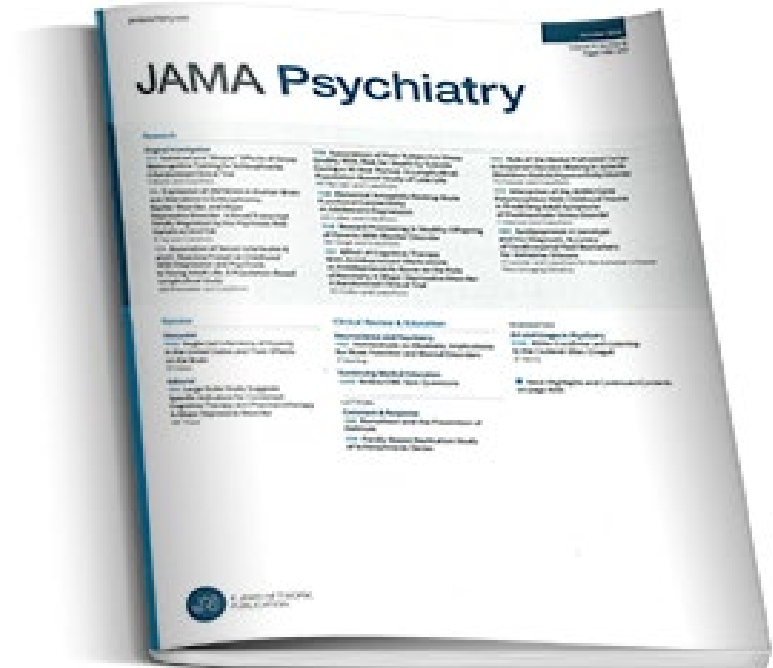
Top 25 Public Health Journals

Source: 2013 Journal Citation Reports (JCR) Science and Social Science Editions, Institute for Scientific Information,
 Subject Category: Public, Environmental and Occupational Health

Journal Name	Impact Factor ¹	Public Health Knowledge Domain
International Journal of Epidemiology	9.197	Epidemiology
Epidemiologic Reviews	7.333	Epidemiology
Environmental Health Perspectives	7.029	Environmental Health
Annual Review of Public Health	6.627	General Public Health
Epidemiology	6.178	Epidemiology
Journal of Clinical Epidemiology	5.478	Epidemiology
Tobacco Control	5.150	Social and Behavioral Sciences
European Journal of Epidemiology	5.147	Epidemiology
Journal of Toxicology and Environmental Health Part B: Critical Reviews	5.146	Environmental Health
Bulletin of the World Health Organization	5.112	Global Health ; General Public Health
American Journal of Epidemiology	4.975	Epidemiology
Cancer Epidemiology, Biomarkers & Prevention	4.324	Chronic Diseases & Conditions ; Epidemiology
American Journal of Preventive Medicine	4.281	General Public Health
American Journal of Public Health	4.229	General Public Health
Environmental Research	3.951	Environmental Health
Infection Control and Hospital Epidemiology	3.938	Communicable Diseases ; Epidemiology
Health Reports	3.314	
Journal of Epidemiology & Community Health	3.294	Epidemiology ; Community Health ; General Public Health
International Journal of Hygiene and Environmental Health	3.276	Environmental Health
Occupational and Environmental Medicine	3.234	Environmental Health ; Occupational Health
Scandinavian Journal of Public Health	3.125	General Public Health
Scandinavian Journal of Work, Environment & Health	3.095	Environmental Health ; Occupational Health
Journal of Exposure Science and Environmental Epidemiology	3.050	Environmental Health ; Epidemiology
Cancer Causes & Control	2.961	Chronic Diseases & Conditions ; Epidemiology
Genetic Epidemiology	2.051	Chronic Diseases & Conditions ;

Journals and clusters: e.g. JAMA

- JAMA
- JAMA Dermatology
- JAMA Facial Plastic Surgery
- JAMA Internal Medicine
- JAMA Neurology
- JAMA Oncology
- JAMA Ophthalmology
- JAMA Otolaryngology—Head & Neck Surgery
- JAMA Pediatrics
- JAMA Psychiatry
- JAMA Surgery



Article Types & Instructions to Authors



- <http://www.plosone.org>

“All good science deserves to be published”

- As long as your work reaches a high technical and ethical standard, *PLOS ONE* will publish it - and make it freely available to a global audience.
- **Scope**
 - *PLOS ONE* features reports of original research from all disciplines within science and medicine. By not excluding papers on the basis of subject area, *PLOS ONE* facilitates the discovery of the connections between papers whether within or between disciplines.
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- In part supported by publication fee
 - Up to \$1,500 but can be reduced or waived

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Submission process

- Submit with cover letter including:
 - Statement of importance & journal fit
 - Suggestions for potential reviewers (avoid COI)*
 - If applicable, names of those who would not be appropriate or who would be antagonistic*
- **Follow the journal Instructions to Authors**
 - Word count
 - Citation format
 - Headers, other details
 - Avoid delays!

Manuscript review process (1)

Electronic submission

Assignment to Deputy/Associate Editor


Screening (saves time), if favorable...

Assignment to 2-3 external reviewers


Decision review by editorial board

Manuscript review process (2)

Letter to author (expect ~8 weeks +/-): “No” vs. various forms of “Yes” (“No” = bad journal fit or “No” = flaws)



Revise and resubmit – (1, 2, 3 times) Watch deadlines!
(Odds getting better and better with each revision)



Acceptance letter 😊, assignment of copyright



“In press” (& on to your CV)



Publication (online 1st, print, online only)

Process can be confusing – ask for help!

THE AMERICAN JOURNAL OF PUBLIC HEALTH

December 2, 1987

OFFICIAL JOURNAL OF THE
American Public Health Association
1015 Fifteenth Street, N.W.
Washington, D.C. 20005
(202) 789-5663

Anne M. Joseph, MD, MPH
VA Medical Center
General Medicine Section (1110)
54th Street & 48th Avenue South
Minneapolis, MN 55417

Re: 87/658 "Compliance With Fecal Occult Blood Testing:"

Dear Dr. Joseph,

Thank you for sending us your manuscript. We would be interested in reviewing a revised version that meets the concerns noted in the enclosed editor's and reviewers' comments. We would also like to see it shortened to the format of a Public Health Brief, with not more than 1000 words in the text, 75 words in the Abstract, plus tables and the figure.

Sincerely,



Alfred Yankauer, MD, MPH
Editor, American Journal of Public Health

Enclosure

Ethical Issues in Publication

Potential Misconduct by Authors

- Unethical research (protection of research subjects, care and use of laboratory animals)
- Plagiarism
- Redundant (duplicate) publication
- Inappropriate authorship
- Altering images to distort findings
- Undeclared conflicts of interest

Consequences

- Rejection, retraction, corrections
- Informing author's institution



Information sources

- Author instructions for journal
-  **INTERNATIONAL COMMITTEE of
MEDICAL JOURNAL EDITORS** www.icmje.org
-  **Enhancing the QUALity and
Transparency Of health Research** www.equator-network.org
- COPE – Committee on Publication Ethics



Protection of Research Subjects

Human subjects and data

- Include statement (usually in Methods):
 - Research was approved, or exempted from need for review, by the responsible review committee
 - Informed consent was obtained from all subjects.

“The University of Minnesota’s institutional review board reviewed and approved the study protocol and ruled it exempt from informed consent requirements.”

Animal Experiments

- Include statement:
 - All institutional and national standards for the care and use of laboratory animals were followed
 - Identify the institutional and/or licensing committee approving the experiments
- Follow ARRIVE guidelines (preclinical *in vivo* work):
<http://www.nc3rs.org.uk/arrive-guidelines>

“All animal experiments were approved by the Institutional Animal Care and Use Committee of the University of Minnesota.”

Plagiarism

- Attempting to pass off someone else's work as your own (missing or inadequate attribution)
- Self-plagiarism “when large chunks of text have been cut-and-pasted”
- Publishers may use plagiarism checking software such as *CrossCheck* to help editors verify the originality of submitted manuscripts. Selected submitted manuscripts are scanned and compared with the CrossCheck database.

Overlapping Publication

- **Duplicate submission:** Must not submit a manuscript simultaneously to more than one journal (irrespective of language)
- **Duplicate publication:** Must not submit a manuscript that overlaps substantially with one already published, without clear reference to the previous publication
- **Usually not considered “pre-publication”:**
 - Posters, published meeting abstracts, dissertations, required data in short abstracts in clinical trial registries
- **Be cautious about:**
 - Salami science
 - Press releases that include substantive data
 - Posting your data or pre-acceptance manuscript online



Inappropriate Authorship

Criteria for authorship – you must meet all 4!

- 1) Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work;
- 2) Drafting the work or revising it critically for important intellectual content;
- 3) Final approval of the version to be published;
- 4) Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

**Other contributions can and should be noted in Acknowledgements
(but get the person's permission to do so!)**

Inappropriate Authorship

Guest author – Person named as an author without having made substantial contributions

Ghost author – Person who meets authorship criteria but has been omitted from the author list

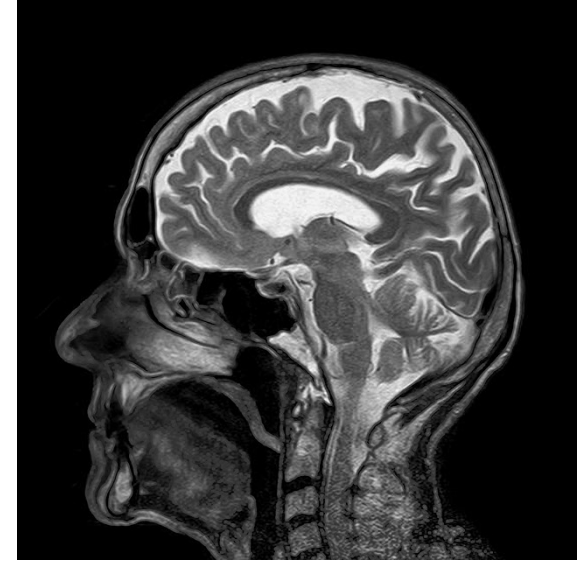
Journal policies continue to evolve:

- Some require explanation of “who did what”
- Some allow “co-first authorship”
(<http://www.fasebj.org/content/early/2013/07/09/fj.13-235630.full.pdf>)
- Some have explicit guidelines for “group authorship”
(large consortia or multisite trials)



Altering Images

- Images should be “minimally processed” (may be technique dependent; adhere to “community standards”)
- Final image must correctly represent the original data
- If you process, provide details (image acquisition tools & settings; image processing software used)
- Processing (e.g., changing brightness and contrast) must be applied equally across the entire image and equally to controls
- Do not use touch up tools (Photoshop)



Undeclared Conflicts of Interest (COI)

- COI exists when professional judgment concerning a primary interest (patients' welfare, validity of research) may be influenced by a secondary interest (personal or financial gain).
- Perceptions of COI are as important as actual COI
- COI must be managed and declared
- Must report funding sources for the work (sponsors) and their roles in study design; data collection, analysis, interpretation; writing of the report; decision to submit for publication
- “I had full access to all of the data in this study and I take complete responsibility for the integrity of the data and the accuracy of the data analysis.”



U of MN COI Policies and Resources



<http://www.compliance.umn.edu/conflictResearch.htm>

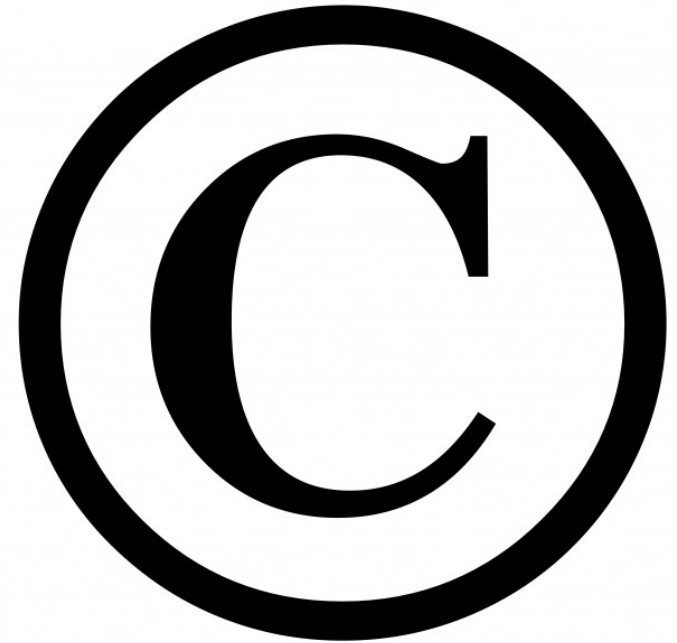


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Journal and Funding Agency Policies

1. Copyright

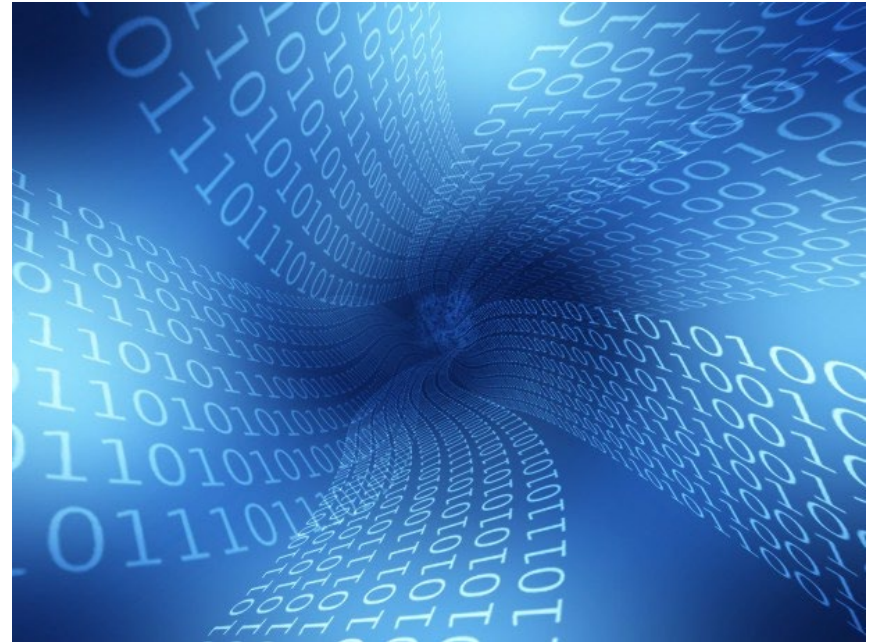
Must request permission (from publisher) to reproduce tables, figures, images (identical or adapted) or reuse portions of text, even if you are author of the original material



2. Availability of data

To editors: “Authors should be prepared to provide original study data and statistical code if requested by the editors.... editors may cease consideration of a manuscript if the authors cannot or will not provide the data” (*Annals of Internal Medicine*)

To readers: “..authors are required to make materials, data, code, and associated protocols promptly available to readers without undue qualifications.” (*Nature journals*)



Example from *Blood*

Authors must deposit their high-throughput microarray data (mRNA, miRNA, and genomic DNA (arrayCGH, ChIP-chip, and SNP) arrays into a public database ([Gene Expression Omnibus \(GEO\)](#) or [Array Express](#)) or provide open access to their own Web-based data repository.



3. Timeliness of data

Example, *JAMA* network:

- RCT: Ideally within 1 year after follow-up is completed.
- Cohort studies: Submit manuscript 5 years or less from date of final follow up
- Case-control or cross-sectional studies: Data collected as recently as possible, no more than 5 years before submission.

4. Article accessibility

Requirement to post accepted article in publicly available repositories (e.g., PubMed Central for NIH)

5. Press embargos

