PUBLISHING AND THE FUTURE OF MEDICAL JOURNALS





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EDITOR-IN-CHIEF, JACC ADVANCES

MEDICINA CURIOSA:

OR,

A Variety of new Communications in Phyfick, Chirurgery, and Anatomy, from the Ingenious of many Parts of Europe, and some other Parts of the World.

October 23. 1684.

The Contents.

1. An Extract of the chief Cures contain'd in a Book call'd, A Rational Practice of Chirurgery: fet forth this Year in the Latine Tongue, by John Muys, M. D. at Leyden, in 12°.

2. An Extract of some Physical Matters contain'd in a Book call'd, Memoirs for the natural History of Humane Blood, especially the Spirit of that Liquor: set forth this Year in English by the Honourable Robert Boyle, in 8°. London.

3. An Extract of the chief Matters relating to Practife, contain'd in a Book call'd, Observations on Fevers and Febrifuges: set forth this Year the second time in the French Tongue, by Dr. Spon, with the Addition of more than a half, in 120, Lyons.

4. The Use of Quinquina for curing Fevers, published by the French King's Order: extratted from the sixth Journal des Scavans of the last Year.

5. The English Remedy, according as it is publish'd by Monsieur de Blegny. M. D.

6. A Febrifuge, or Secret for curing Intermittent Fevers: extracted from the seventh Journal di Literati of Rome, set forth An. 1679, said to be the samous Secret of Riverius.

FIRST ENGLISH MEDICAL JOURNAL 1684





The landscape of medical publishing is undergoing dynamic transformations, driven by technological advancements, evolving research practices, and changing reader preferences

https://www.linkedin.com/pulse/
future-medical-publishing-exploring

OBJECTIVES

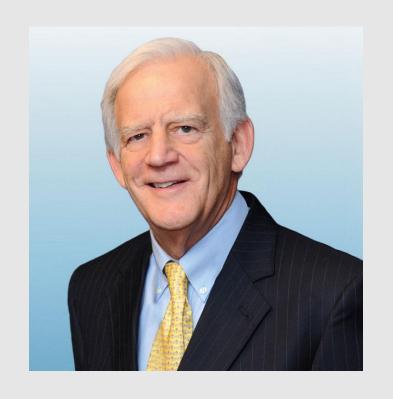


Publishing in 2024

Conducting studies
Understand the editorial process



Publishing and medical journals of the future



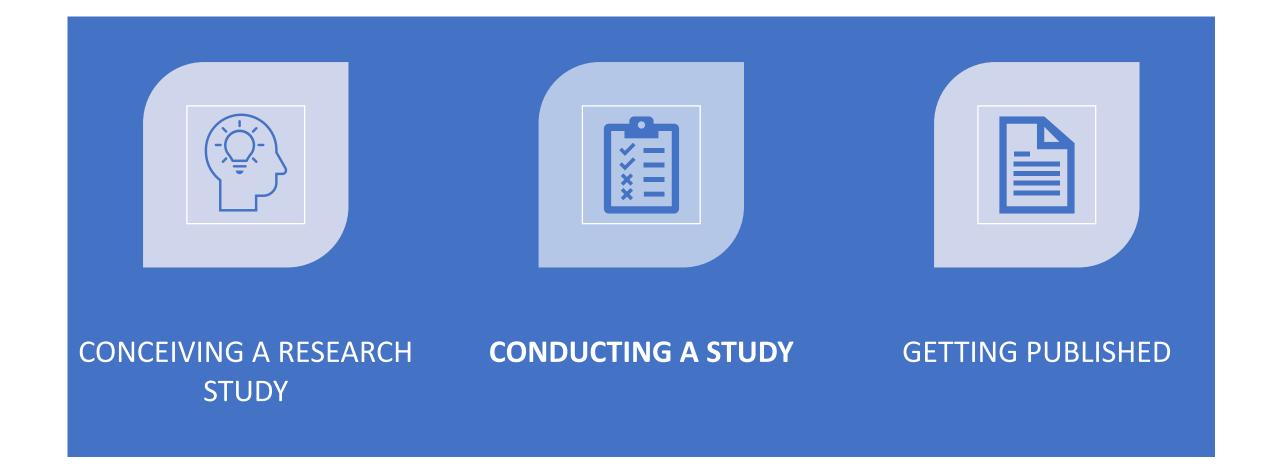
"The primary objective of a medical journal is to publish important new information that influences clinical care or subsequent research."

DeMaria JACC 2003

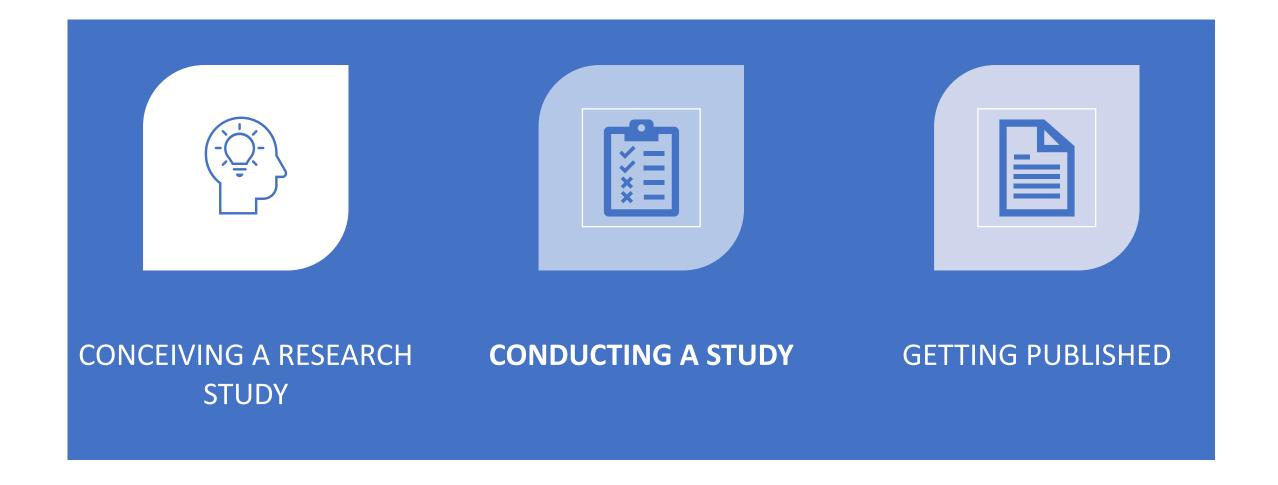


Getting published starts with a good study....

PUBLISHING RESEARCH IN 2024



PUBLISHING RESEARCH IN 2024





A good study starts with a good research question....

CRITERIA FOR DECICING ON A STUDY TOPIC

FINER CRITERIA

Feasible

Interesting

Novel

Ethical

Relevant

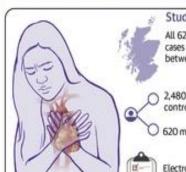


LOCAL EXPERTISE



LOCAL EXPERTISE

CENTRAL ILLUSTRATION: Cardiovascular and Noncardiovascular Prescribing and Mortality Outcomes After Takotsubo Syndrome



Study Design

All 620 takotsubo syndrome cases identified in Scotland between 2010 and 2017

2,480 general scottish population controls

620 myocardial infarction controls

Electronic data linkage for analysis of hospital admissions, mortality, and prescribing

Study Population

- 91% women
- · Mean age 66 years
- · Median follow-up period of 5.5 years



Medication

There were similar rates of prescribing of conventional cardiovascular medications in takotsubo syndrome and myocardial infarction.

Conventional cardiovascular medications were associated with increased survival in patients with myocardial infarction.

Conventional cardiovascular medications were NOT consistently associated with increased survival in patients with Takotsubo Syndrome.



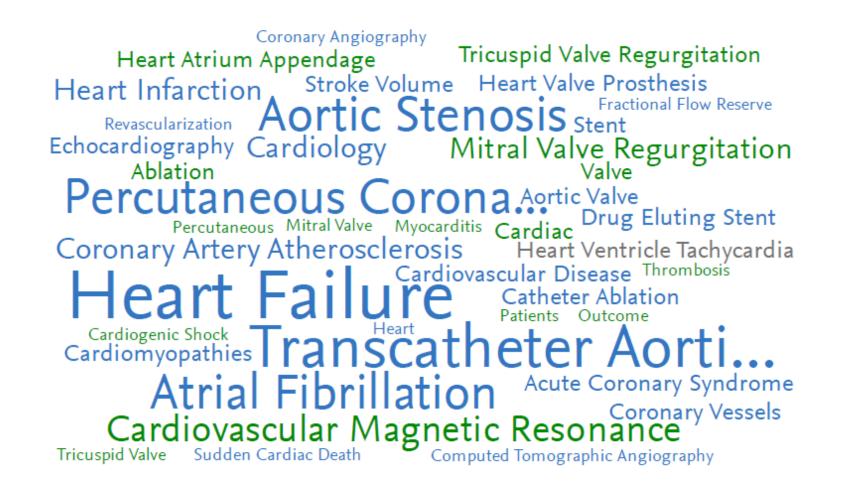
Mortality

Takotsubo syndrome was associated with an increased risk of mortality due to cardiovascular causes when compared to the general population (HR:2.69).



Mortality from noncardiovascular causes was predominantly due to pulmonary conditions.

Rudd AE, et al. JACC Adv. 2024; (a):100797.



A A A relevance of keyphrase | declining A A A growing (2018-2022)

KEYPHASE ANALYSIS JACC JOURNAL 2018-2022

Courtesy of Corina Negru (ELSEVIER). Data source Scopus. Aggregation tool SciVal

TRENDS....

MACHINE LEARNING IN MEDICAL RESEARCH

Medical research papers increasingly mention machine learning algorithms or approaches

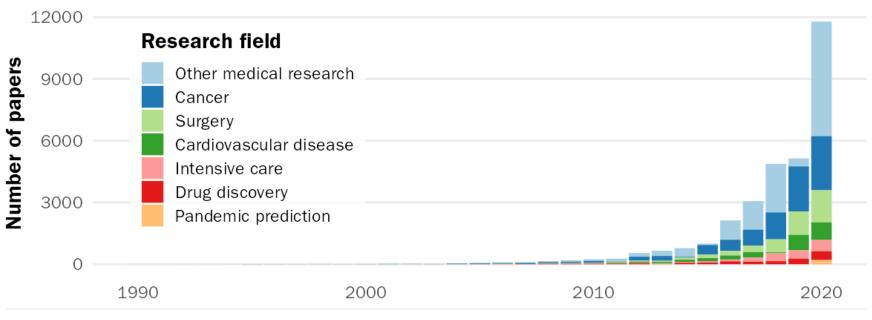


CHART: James Goldie, 360info

DATA: Pugliese et al. 2021 <doi.org/10.1016/j.dsm.2021.12.002>

360

THE BEST IDEAS EMERGE WHEN VERY DIFFERENT PERSPECTIVES MEET

FRANS JOHANSSON

PICTURE QUOTES . com

PUBLISHING RESEARCH IN 2024







CONCEIVING A RESEARCH STUDY

CONDUCTING A STUDY

GETTING PUBLISHED



Early experiments in transportation

- Guidelines to improve the transparence, clearness and completeness of scientific literature
- The CONSORT
 statement is made up
 of a 25-item checklist
 that provides the
 author with a solid
 backbone around
 which to construct
 and present a
 randomized trial



Randomised trials CONSORT Extensions Observational STROBE studies Extensions Systematic reviews PRISMA Extensions Study protocols SPIRIT PRISMA-P Diagnostic/prognosti c studies STARD TRIPOD Case reports CARE Extensions Clinical practice guidelines AGREE RIGHT Qualitative research SRQR COREQ Animal pre-clinical studies ARRIVE Quality improvement studies SQUIRE Extensions **Economic**

evaluations

CHEERS

REGISTRATION OF CLINICAL STUDIES



PRS Login

ClinicalTrials.gov

About This Site

Find Studies

Data About Studies >

Study Basics v PRS Info v

Go to the classic website

My Saved Studies $(0) \rightarrow$

Home > About this site > About ClinicalTrials.gov

About ClinicalTrials.gov

On this page

What is ClinicalTrials.gov and who uses it?

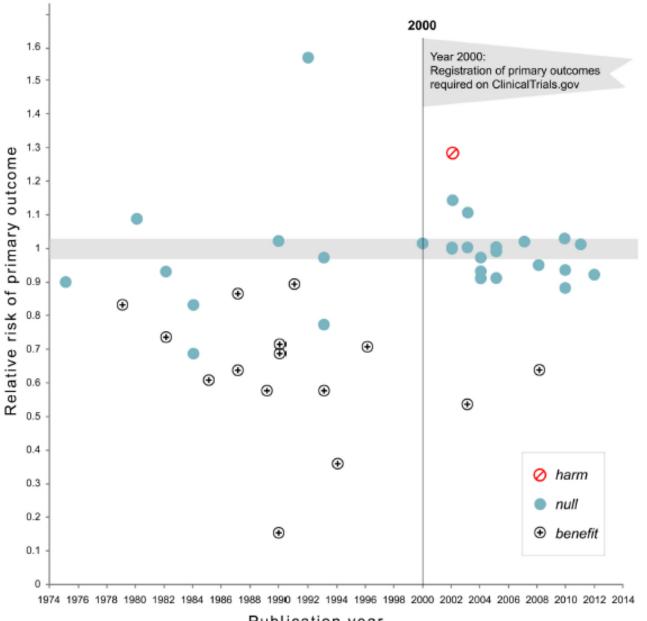
Does the U.S. Government approve all studies listed in the ClinicalTrials.gov database?

What clinical studies can be listed in

What is ClinicalTrials.gov and who uses it?

ClinicalTrials.gov is a **website** and **online database** of <u>clinical research studies</u> and information about their results. The purpose of ClinicalTrials.gov is to provide information about clinical research studies to the public, researchers, and health care professionals. The U.S. government does not review or approve the safety and science of all studies listed on this website.

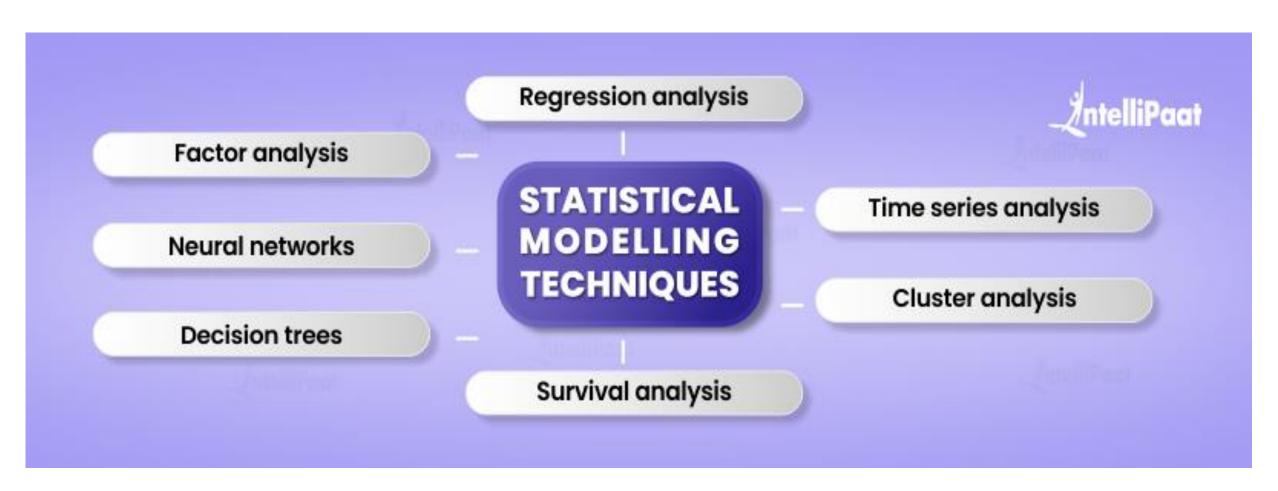
REPORTING BIAS



Publication year

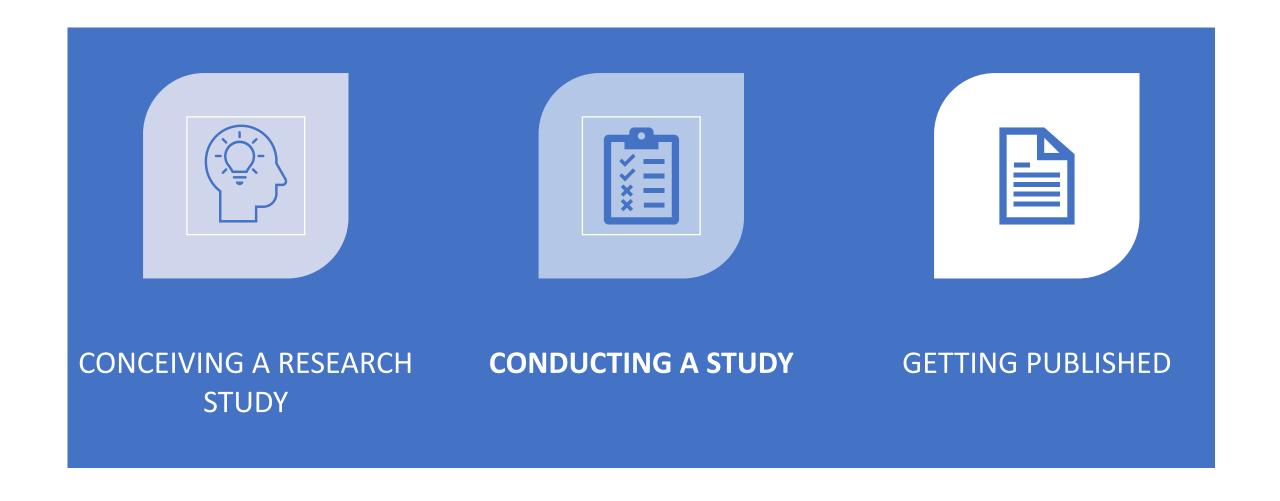
Kaplan and Irvin PLOS One 2015

STATISTICAL ANALYSIS



https://intellipaat.com/blog/what-is-statistical-modeling/

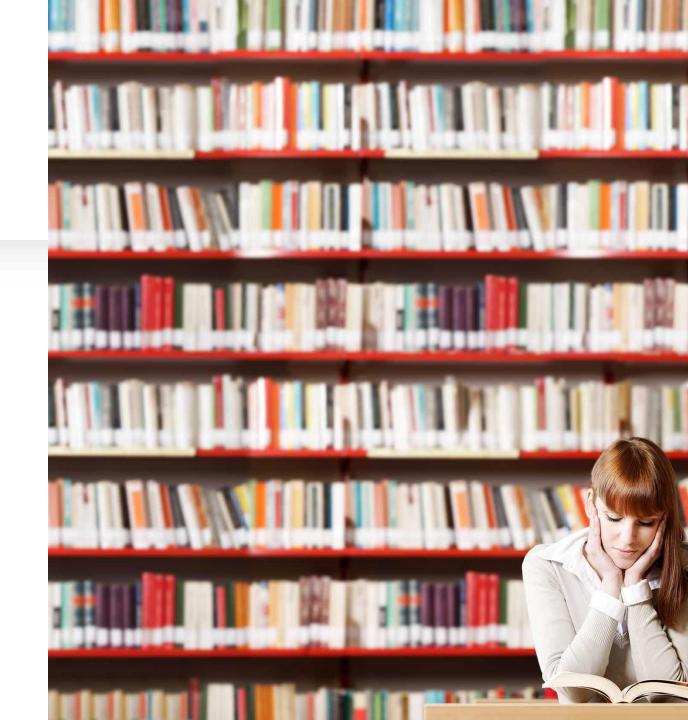
PUBLISHING RESEARCH IN 2024



GETTING YOUR MANUSCRIPT PUBLISHED

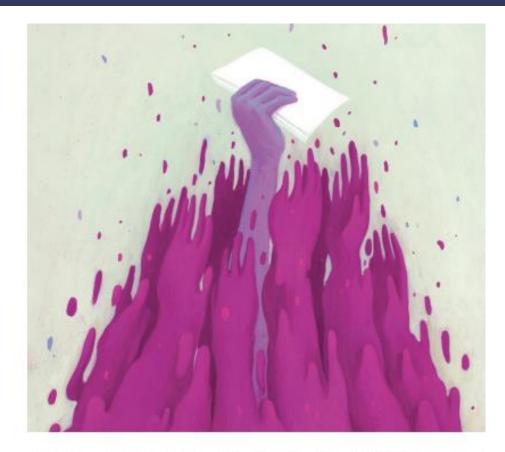
Pick the right journal

https://scientificpublishing.webshop.elsevier.com /research-process/how-tochoose-a-journal-to-submit-anarticle/





- JACC: Advances is an open-access, peer-reviewed, cardiovascular journal that publishes Original Research papers and State-of-the-art reviews focused on cardiovascular medicine, including emerging areas.
- The Journal considers a broad range of original research studies including clinical, experimental investigations with clear clinical relevance, epidemiological, and healthcare policy studies that advance cardiovascular health.



THE DARK SIDE OF PUBLISHING

The explosion in open-access publishing has fuelled the rise of questionable operators.

"2012 WAS THE YEAR OF THE PREDATORY PUBLISHER: THAT WAS WHEN THEY REALLY EXPLODED."

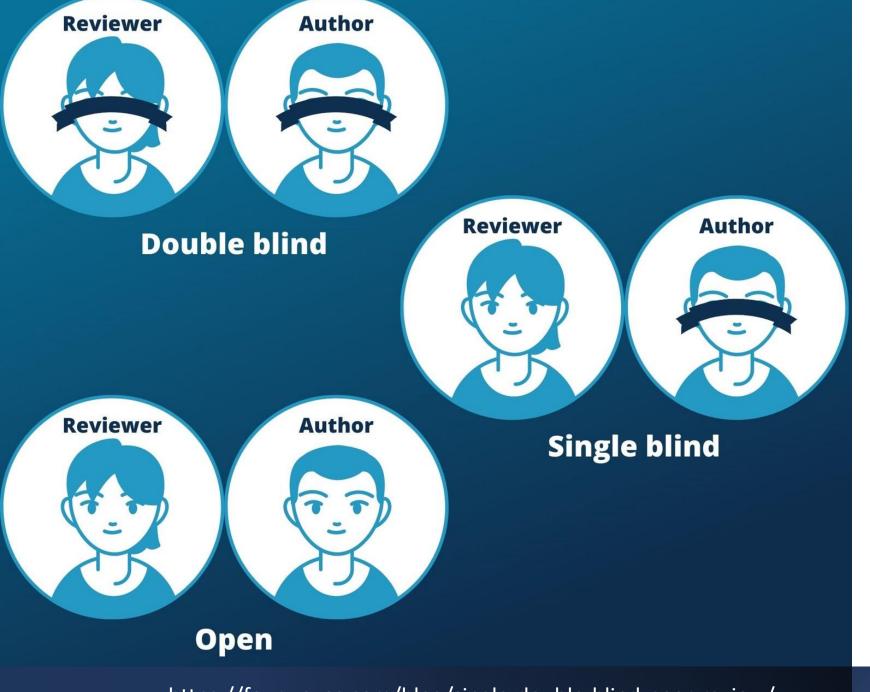
PEER REVIEW

PEER REVIEW

'Peer review to the public is portrayed as a quasi-sacred process that helps to make science our most objective truth teller, but we know that the system of peer review is biased, unjust, unaccountable, incomplete, easily fixed, often insulting, usually ignorant, occasionally foolish, and frequently wrong'.



Richard Horton Editor-in-Chief, The Lancet



PEER REVIEW

New approaches to improve peer review are being considered and tested

Double-anonymous peer review, where both reviewers' and authors' identities are concealed with the goal of reducing bias

PREPRINT SERVERS







THE PREPRINT SERVER FOR HEALTH SCIENCES

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	Advanced Search

Caution: Preprints are preliminary reports of work that have not been certified by peer review. They should not be relied on to guide clinical practice or health-related behavior and should not be reported in news media as established information.



DECISION LETTERS AND WHAT THEY MEAN

DECISIONS	WHAT THEY MEAN
Reject without review	Not suitable for journal
Transfer to a sister journal	More suitable for another journal

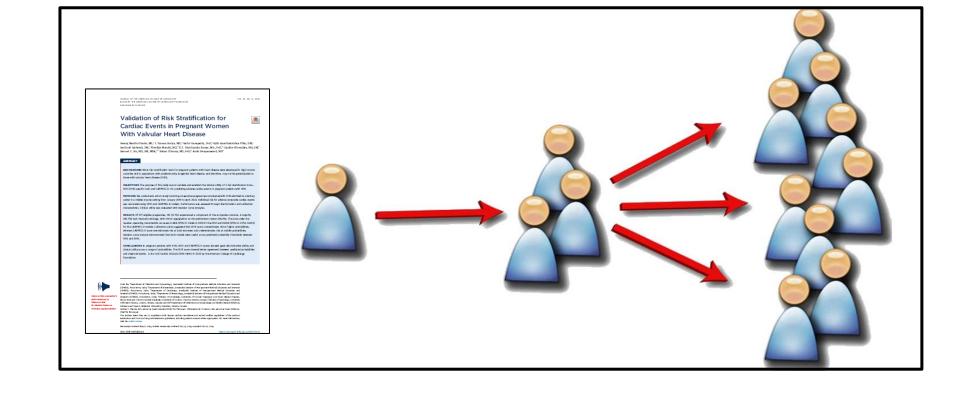
HANDLING DISAPPOINTMENT



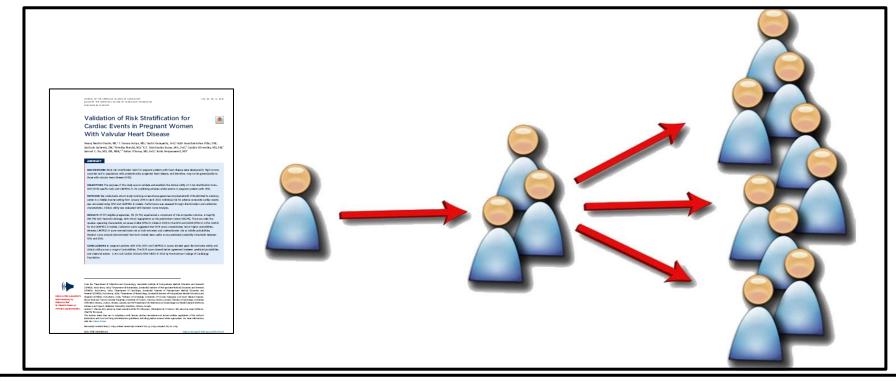
DECISION LETTERS AND WHAT THEY MEAN

DECISIONS	WHAT THEY MEAN
Reject without review	Not suitable for journal
Transfer to a sister journal	More suitable for another journal
Reject after review	Not acceptable
Major or minor revisions	Editors are seriously considering the manuscript
DeNovo resubmission	Editors like the paper, but major issues need to be addressed





DISSEMINATE YOUR WORK











DISSEMINATE YOUR WORK



2022 >13,500,000

PODCASTS



PAPER
JOURNALS WILL
BE LESS
COMMON





JOURNAL FAMILIES

GLOBAL APPROACH TO RESEARCH



JACC Journals publish international research

Entity: All JACC Journals · Year range: 2018 to 2022 · Data source: Scopus, up to 10 Jan 2024

Scholarly Output



Courtesy of Corina Negru (ELSEVIER)

OPEN ACCESS





"Pay-to-read" model



"Pay-to-publish" model

INTERACTIVE DATA VISUALIZATION AND MULTIMEDIA INTEGRATION



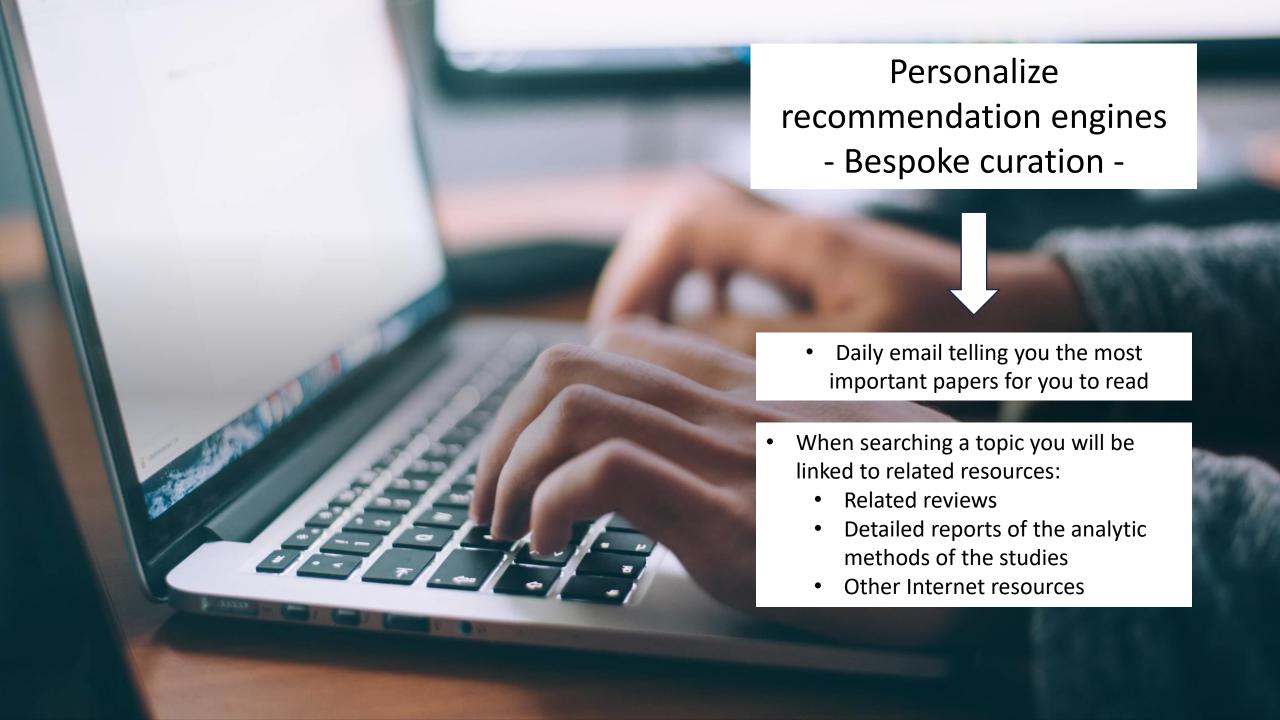
INTERACTIVE DATA VISUALIZATION AND MULTIMEDIA INTEGRATION



Future Journals: Personalization and Reader Engagement

Platforms that use machine learning algorithms to provide personalized content recommendations based on a reader's interests, previous searches, and reading history





"Tools are emerging to facilitate this 'share early, share often' approach."

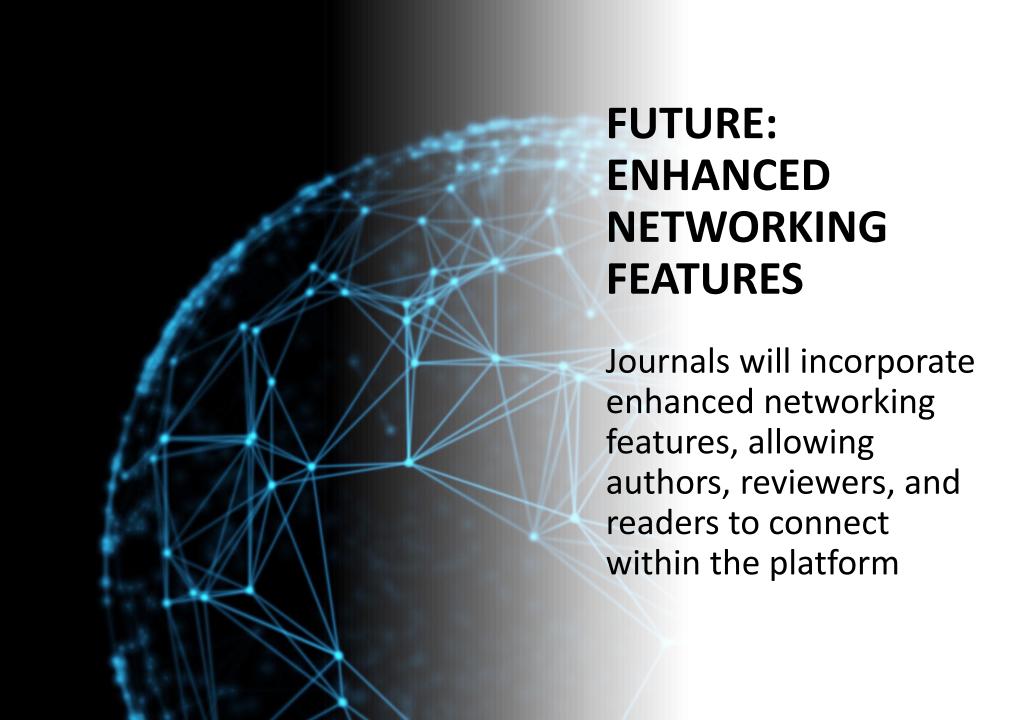
SHARING DATA AND CODE: RESEARCH DATA REPOSITORIES





"They challenge the traditional article format by including blog posts, interactive graphics and video.

Priem Nature 2023







LARGE LANGUAGE MODELS

JACC Journals' Pathway Forward With Al Tools



The Future Is Now

- If nonhuman AI models are used to generate content in the manuscript, the authors must disclose this information in the cover letter to the editor and include the following statement "The authors take full responsibility for the data integrity and the authenticity of all the content that was generated by artificial intelligence and machine learning models."
- Authors must report the use of nonhuman AI models to create or assist in content in the Methods section and/or the Acknowledgment section of the submitted paper

AI-ENABLED IMAGE FRAUD IN SCIENTIFIC PUBLICATIONS

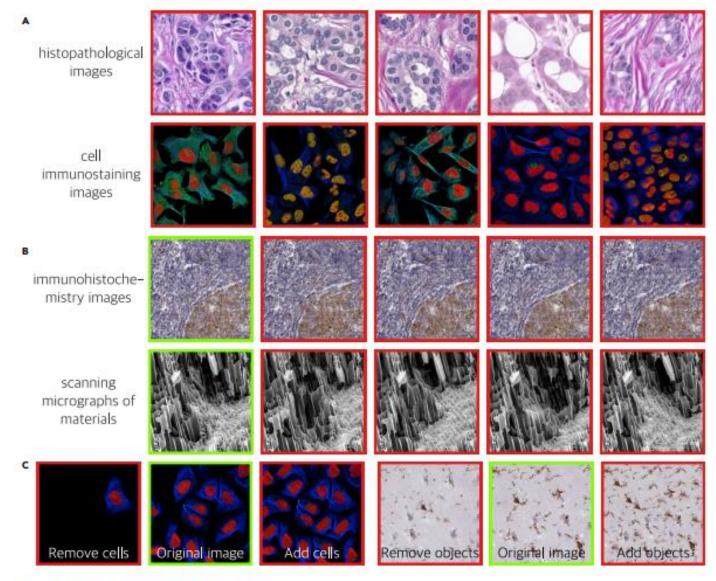


Figure 1. Scientific image fraud by intelligent models

We show several fake images generated by generative models. The images with the red border are all computer generated, while the images with the green border are real ones.





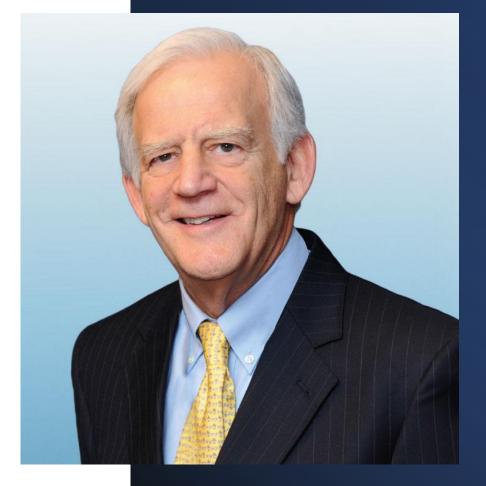
IMPACT FACTOR

- Main metric use to assess the impact of a medical journal
- Invented by a librarian
- Originally invented as a tool to help university librarians decide which journals to purchase
- Number of cited articles over a 2year period
- Criticisms of its statistical validity and its implications of how science is assessed

IMPACT FACTOR 2022: ELSEVIER JOURNALS

	Journal Impact	Journal IF rank
Source	Factor 2022	2022
JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY	24	4
JACC: Cardiovascular Imaging	14	8
JACC: Heart Failure	13	9
JACC: Cardiovascular Interventions	11.3	10
JACC: Clinical Electrophysiology	7	25
OTHERS		
Chest	9.6	5
The Journal of Heart and Lung Transplantation	8.9	19
Journal of the American Society of Echocardiography	6.5	27
Journal of Thoracic and Cardiovascular Surgery	6	33
Heart Rhythm	5.5	38
The Annals of Thoracic Surgery	4.6	47

"It is very possible that Altmetrics, or some similar metric, will displace the Impact Factor and become the "ejection fraction" of medical journals in the future."



DeMaria JACC Case Reports 2016

CONCLUSIONS



Publishing in 2024

Carefully design and conduct your studies

Understand the editorial process

Don't be discouraged

Use social media to disseminate your work

CONCLUSIONS



Medical journals of the future

More open access

More predatory journals

Al use will improve the researcher and reader experience

Role of LLM is evolving

Medical journals of the future remain to be defined

RESOURCES

- Learn about JACC: Advances and the JACC journals <u>JACC Journals</u> <u>ScienceDirect.com by Elsevier</u>
- Learn more about publishing in the JACC Family of journal: https://www.jacc.org/authorcenter/how-to-publish



Request access to JACC Journals





POPULAR RESEARCH TOPICS IN JACC JOURNALS: INDICATOR OF THE LATEST DEVELOPMENTS IN CARDIOLOGY

	At this Research Area			Worldwide
Торіс	Scholarly Output	Publication Share	Field-Weighted Citation Impact	Prominence percentile
Transcatheter Aortic Valve Implantation; Heart Valve Prosthesis; Aortic Stenosis T.32	882	11.57%	2.11	99.618
Mitral Valve Regurgitation; Leaflet; Tricuspid Valve Disease T.867	317	11.75% ▲	2.10	98.216
Ejection; Heart Failure; Mineralocorticoid Antagonist T.5354	255	8.72%	3.30	99.632
Coronary Artery Obstruction; Reserves; Percutaneous Coronary Intervention r.5537	217	13.40%	1.71	97.488
Atrial Fibrillation; Transesophageal Echocardiography; Amulet T.3997	196	10.19%	1.82	97.671
Pulmonary Veins; Catheter Ablation; Atrial Fibrillation T.10	196	5.81% ▼	1.28	98.555
Outcome; Mitral Valve; Bioprosthesis T.10257	196	15.01% 🔺	3.27	97.263
Anthracyclines; Cardiotoxicity; Doxorubicin	165	5.23%	2.48	99.340

Courtesy of Corina Negru (ELSEVIER)



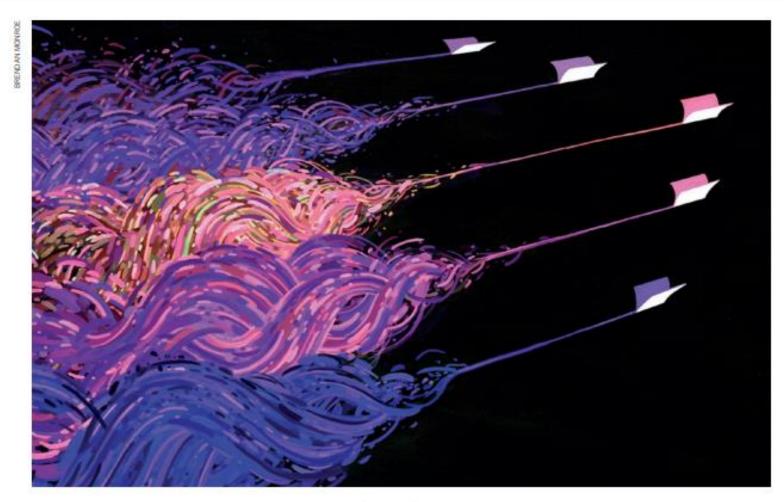
It does not matter how many times you get knocked down, but how many times you get up.

— Vince Lombardi —

AZ QUOTES

Priem Nature 2023

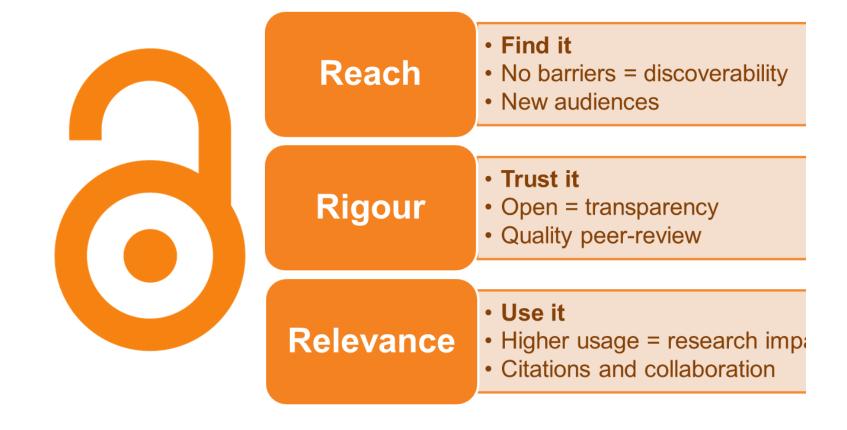
"Editors and reviewers...will be replaced by the aggregated, collective judgement of communities themselves."



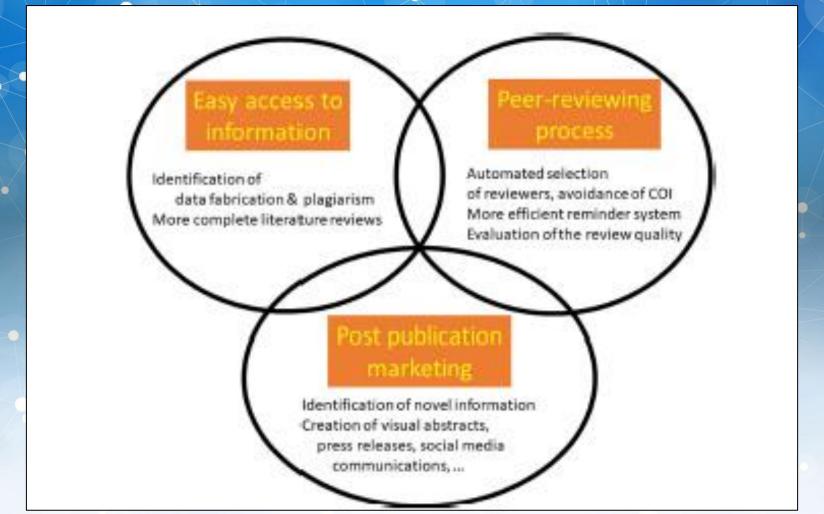
Beyond the paper

The journal and article are being superseded by algorithms that filter, rate and disseminate scholarship as it happens, argues Jason Priem.

OPEN ACCESS



ARTIFICIAL INTELLEGENCE IN THE PEER REVIEW PROCESS



DECISION LETTERS AND WHAT THEY MEAN

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Reject after review	Not acceptable

INTERPRETING YOUR RESULTS



Reporting guidelines for main study types

Randomised trials	<u>CONSORT</u>	Extensions
<u>Observational</u>		
<u>studies</u>	STROBE	<u>Extensions</u>
Systematic reviews	<u>PRISMA</u>	Extensions
Study protocols	<u>SPIRIT</u>	PRISMA-P
Diagnostic/prognost	<u>ti</u>	
<u>c studies</u>	STARD	TRIPOD
Case reports	CARE	<u>Extensions</u>
Clinical practice		
<u>guidelines</u>	<u>AGREE</u>	RIGHT
Qualitative research	SRQR	COREQ
Animal pre-clinical		
<u>studies</u>	<u>ARRIVE</u>	
Quality improvemen	<u>t</u>	
<u>studies</u>	SQUIRE	<u>Extensions</u>
<u>Economic</u>		
<u>evaluations</u>	<u>CHEERS</u>	

Provide standards on design, analysis, and interpretation of the results

Limitations	Trial limitations, addressing sources of potential bias, imprecision, and, if relevant, multiplicity of analyses	
Generalisability	Generalizability (external validity, applicability) of the trial findings	
Interpretation	Interpretation consistent with results, balancing benefits and harms, and considering other relevant evidence	

GLOBAL APPROACH TO RESEARCH IN JACC JOURNALS

Publications with Highest FWCI

Entity: All JACC Journals · Year range: 2018 to 2022 · Data source: Scopus, up to 10 Jan 2024

		Field-
		Weighted
		Citation
Publication	Citations	Impact
The Global Burden of Cardiovascular Diseases and Risk: A Compass for	190	242.87
Future Health.		
Vaduganathan, M., Mensah, G.A., Turco, J.V. and 2 more		
(2022) Journal of the American College of Cardiology, 80 (25), pp. 2361-		
2371.		

A Field Weighted Citation Impact (FWCI) of 1 means that the output performs as expected for the global average; an FWCI of 1.44 means 44% more cited than expected

DECISION LETTERS AND WHAT THEY MEAN

DECISIONS	WHAT THEY MEAN
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High impact journal families published by Elsevier



Reading high quality interdisciplinary research increases the quality of your publications and leads to innovation

Read Cite Publish Get Cited

Feedback from our readers:

- "Access to impactful peer reviewed publications, from a variety of specialities enhances my teaching, research and clinical activity."
- "Fostering innovation requires knowledge from multiple related disciplines."
- "Reading high quality interdisciplinary research allows me to stay abreast of my field and interrelated specialties."

Elsevier high impact journal families

THE LANCET

- 24 premium journals in Clinical Medicine Research
- Most read and cited content on ScienceDirect
- 99M full text article downloads annually



- 56 high impact journals in *Life, Physical and Health Sciences*
- 156 articles downloads every minute
- 32 citations per publication



- 87 peer-reviewed journals in Clinical Medicine
- Multi-disciplinary content across 21 Health Science domains
- 82M full text article downloads annually











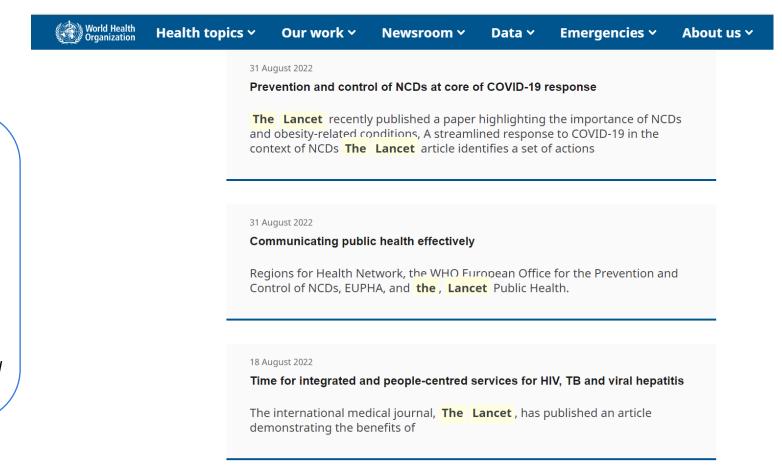
High impact journals spanning many specialties



Independent • International • Influential

The Lancet began as an independent, international weekly general medical journal founded in 1823 by Thomas Wakley. Since its first issue (October 5, 1823), the journal has strived to make science widely available so that medicine can serve, and transform society, and positively impact the lives of people.

World Health Organization uses research and innovation published in the *Lancet* journals for evidence-based policy



Readers' feedback:

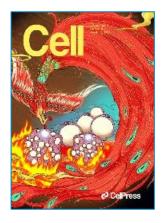
"Lancet helps me formulate policy positions, based on medical evidence and opinion pieces."

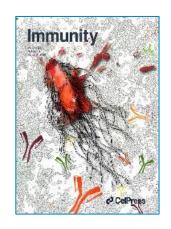
"Lancet covers just about every facet in medicine with integrity, transparency and clarity."

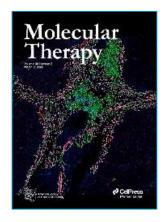
"The articles are of a high validity and reliability. All of them are peer reviewed."

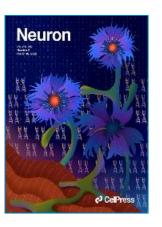
THE LANCET

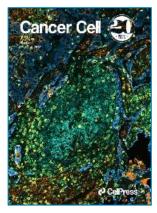
Cell Press journals you may have heard of



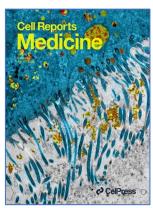
















Nobel Prize in Physiology or Medicine 2023:Katalin Karikó and Drew Weissman

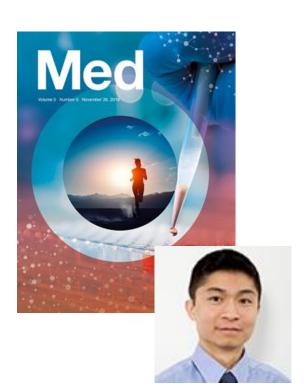
Discoveries concerning nucleoside base modifications that enabled the development of effective mRNA vaccines against COVID-19.

Both Dr. Katalin Karikó and Dr. Drew Weissman have authored articles in Cell Press hybrid titles as wel. Their 2005 *Immunity* article was cited in the award alongside a key article from *Molecular Therapy*.



Recent Cell Press launches in medical sciences



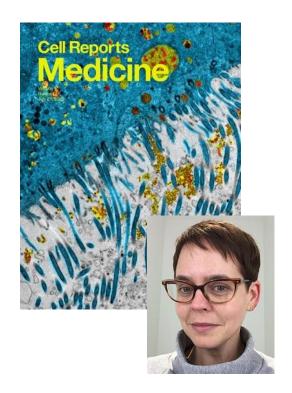


Duke Lee, PhD Editor-in-Chief

www.cell.com/med

Launched 2020

- Med publishes clinical trial results, observations from longitudinal cohorts, and pioneering discoveries about disease mechanisms in Cancer, Cardiovascular and metabolic diseases, Clinical practice guidelines and health policy, Digital health, and many others.
- Sister title to Cell
- Focus on therapy



Launched 2020

- Broad-scope, open access
 journal publishing cutting-edge
 research in translational and
 clinical research that ranges
 from exciting concepts in
 human biology, health, and
 disease to all phases of clinical
 work.
- Sister to Cell Reports, Cell Reports Methods and Cell Reports Physical Sciences
- Flexible formats
- Rapid publication

Sara Hamilton, PhD Editor-in-Chief

www.cell.com/cell-reports-medicine

JACC Impact compared to the Cardiology subject area



37 citations per publication

10 citations per publication



Resources

- Learn about JACC: Advances and the JACC journals
 JACC Journals | ScienceDirect.com by Elsevier
- Learn more about Journal of the American College of Cardiology <u>Journal of the American College of</u> <u>Cardiology | ScienceDirect.com by Elsevier</u>
- Learn about publishing in Elsevier's premium journals
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- Learn more about the high impact journal families of Elsevier <u>High impact journals</u> | <u>Elsevier</u>
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