

ECONOMICS OF ACADEMIC PUBLISHING: FINAL PRESENTATION

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START
CENTER

STRATEGIC ANALYSIS,
RESEARCH & TRAINING CENTER

Department of Global Health | University of Washington

AGENDA

- Introduction
- Project Overview
- Methodology
- Findings
 - Landscape Analysis
 - Policy Recommendations
- Takeaways and Next Steps

INTRODUCTION

START CENTER OVERVIEW



Leverages leading content expertise from across the University of Washington



Provides high quality research and analytic support to the Bill & Melinda Gates Foundation and global and public health decision-makers



Provides structured mentorship and training to University of Washington graduate research assistants

PROJECT TEAM MEMBERS



Angela Yang

MBA Student

Project Manager



Nicole Asa, MPH

PhD Student, Epidemiology

Research Assistant



Ana Krause, RN, MSc (IPH)

PhD Student, Global Health

Research Assistant



Barclay Stewart, MD, PhD, MScPH

Medicine-Surgery

Faculty Lead

PROJECT OVERVIEW

PROJECT OBJECTIVES AND PRIORITIES

ADDRESS INCREASING OPEN ACCESS (OA) ARTICLE PROCESSING CHARGES (APCs)

This project explores the landscape of OA APCs and the role that the Bill and Melinda Gates Foundation plays in funding researchers and APCs to enable open access.



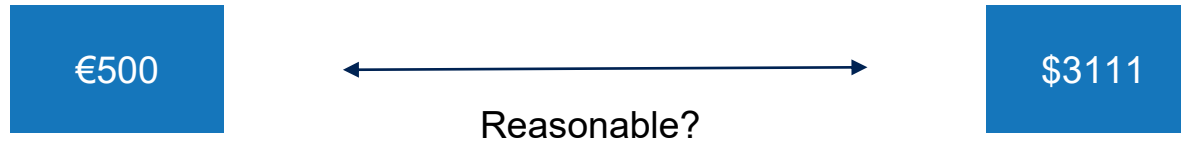
Through the belief that access to information and data fosters effective collaboration:

- Information should be promptly and broadly disseminated
- There should be unrestricted access and reuse of all peer-reviewed published research and underlying data sets

PROJECT OVERVIEW

Original Ask:

1. Conduct a landscape analysis on the true cost of publishing a research article with open access
2. Analyze potential business models that aim to keep the cost of publishing reasonable



Updated Objectives:

Phase I — Landscape Analysis/Placemats:

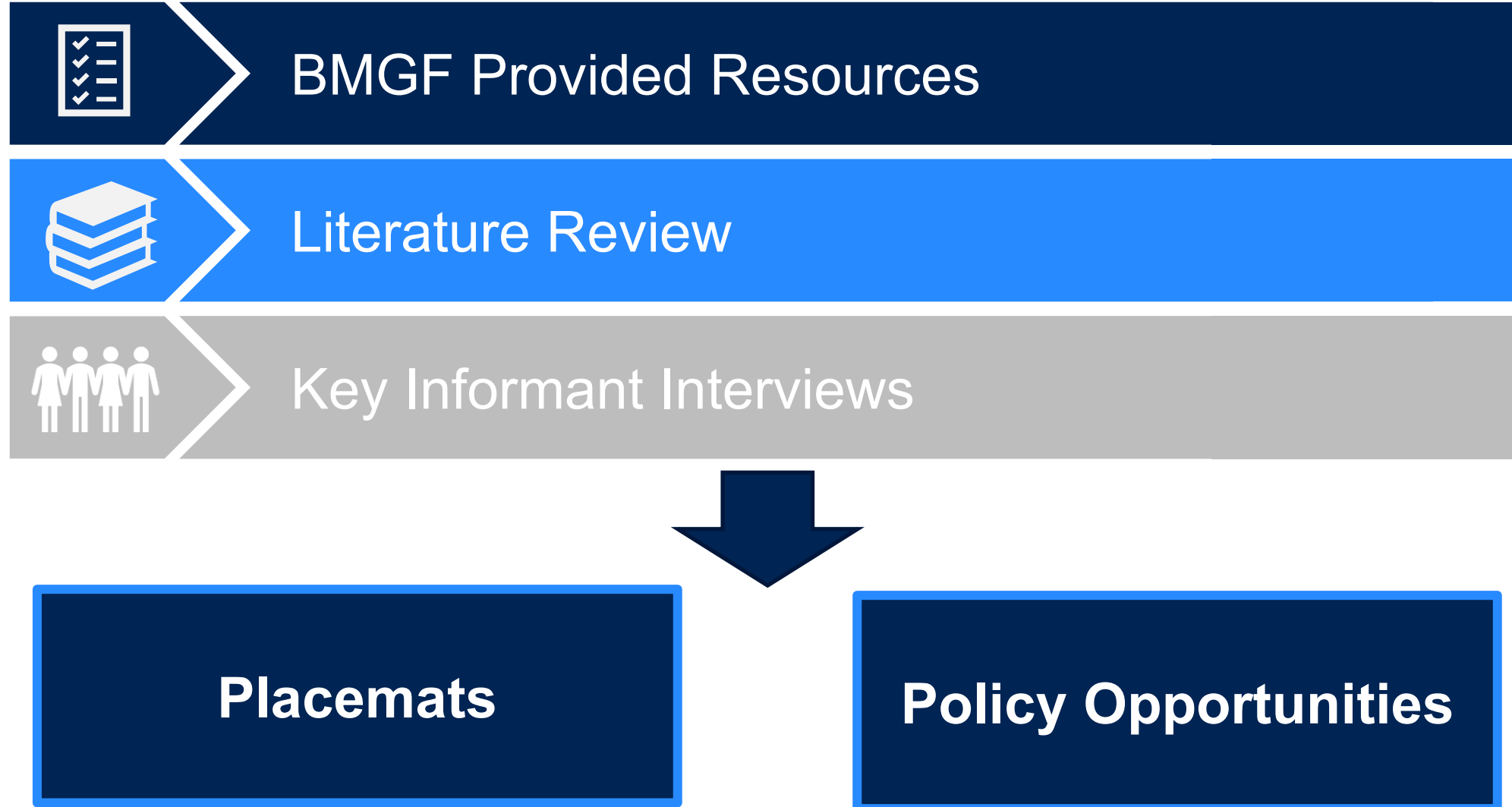
- Trends in research publication
- Main models of open access
- Open access policies
- Trends in BMGF-supported publication and spending

Phase II — Policy Opportunities:

- Align BMGF values/priorities with potential policy additions/changes
- Recommend potential strategies to incorporate into BMGF policy

METHODOLOGY

THE APPROACH

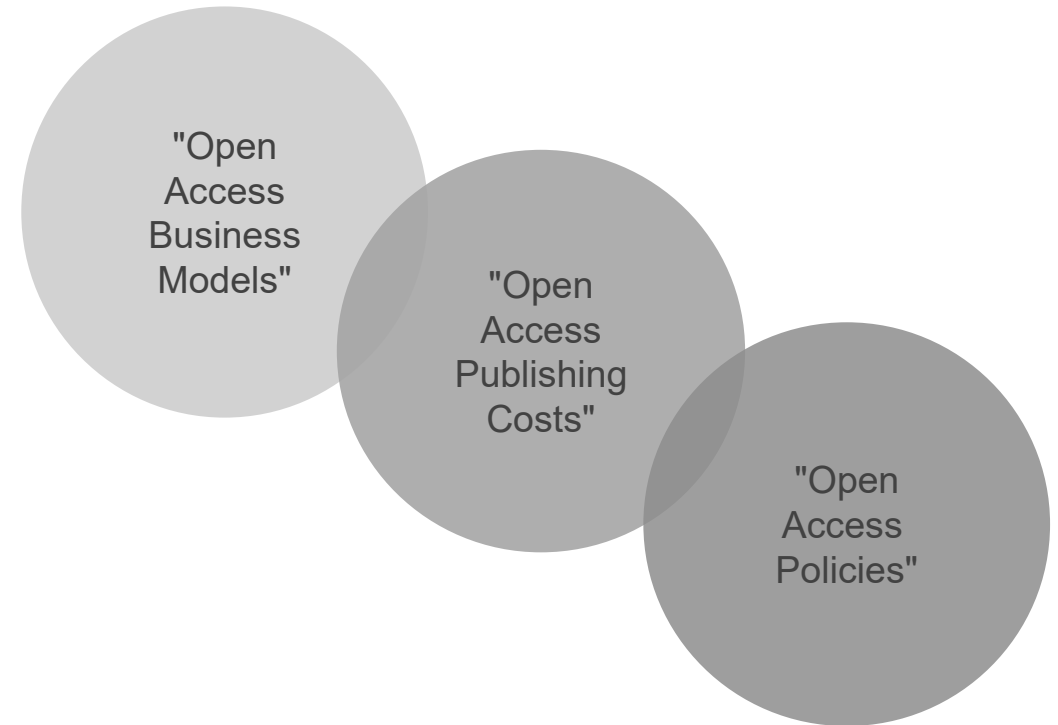


IDENTIFYING LITERATURE

THE SEARCH CRITERIA

- 01 Open Access Publishing
- 02 Published after 2012
- 03 Academic Publications, Grey Literature, and White Papers
- 04 English

KEY SEARCH PHRASES



LITERATURE & RESOURCE REVIEW



Literature Review

52 Journal Articles

50 Grey Literature & White Papers



BMGF Resources

2021 & 2022 OA Spending Data

Existing & Potential OA Policies



Resources from KIIs

Wellcome Trust 2022 OA Spending Data

Supplemental Articles & Documents

KEY INFORMANT INTERVIEWS

ORGANIZATIONS & AREAS OF EXPERTISE

We sought diverse perspectives from experts in the OA field

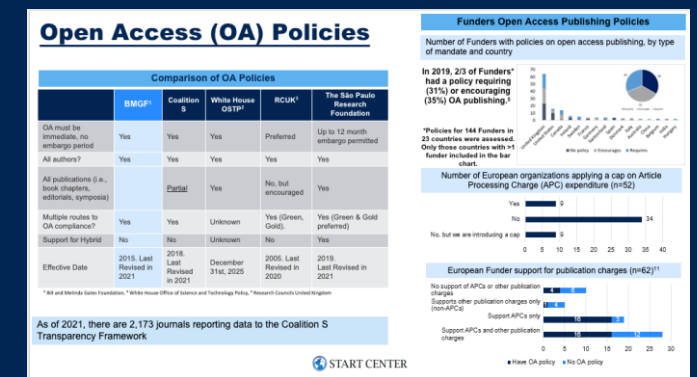
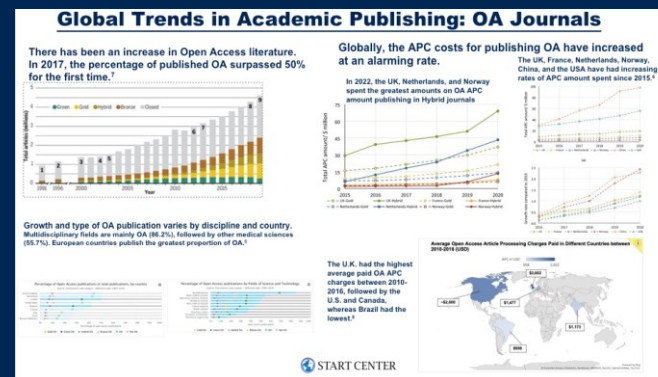
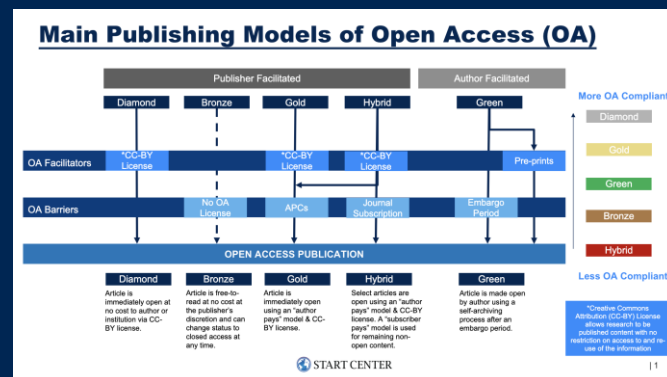


14 Key Informants

- 5 University Librarians
- 3 Economists
- 2 Open Access Publishers
- 2 Journal Editors
- 1 Multi-disciplinary Scholar
- 1 Research Funder

FINDINGS

Landscape Analysis

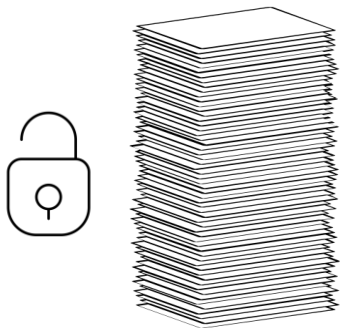


FINDINGS

GENERAL TRENDS

OA had grown substantially over the past decade, with accelerating prices and variable funder policies

**GROWING
BODY OF OA
LITERATURE**



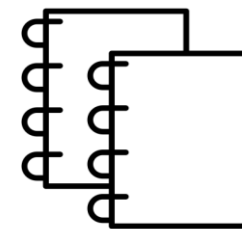
**RAPIDLY
RISING OA
APC COSTS**



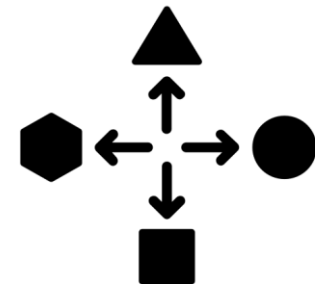
**EXPONENTIAL
GROWTH IN
PRE-PRINTS**



**# OF OA
JOURNALS
HAS MORE
THAN
DOUBLED**



**RANGE OF
OA POLICIES
AMONG
FUNDERS**



FINDINGS

OPEN ACCESS APC PRICING & TRENDS

OA APC charges vary widely & have risen at a rapid rate



ELSEVIER as a single publisher, charges OA APCs ranging from \$200- \$10,100 USD

Average *per-article* APC pricing varies by discipline/subject & sampling (2019 DOAJ data)

- **Science: \$1,967 USD**
- **Medicine: \$1,753 USD**
- **Social Sciences: \$419 USD**
- **Military Science: \$24 USD**

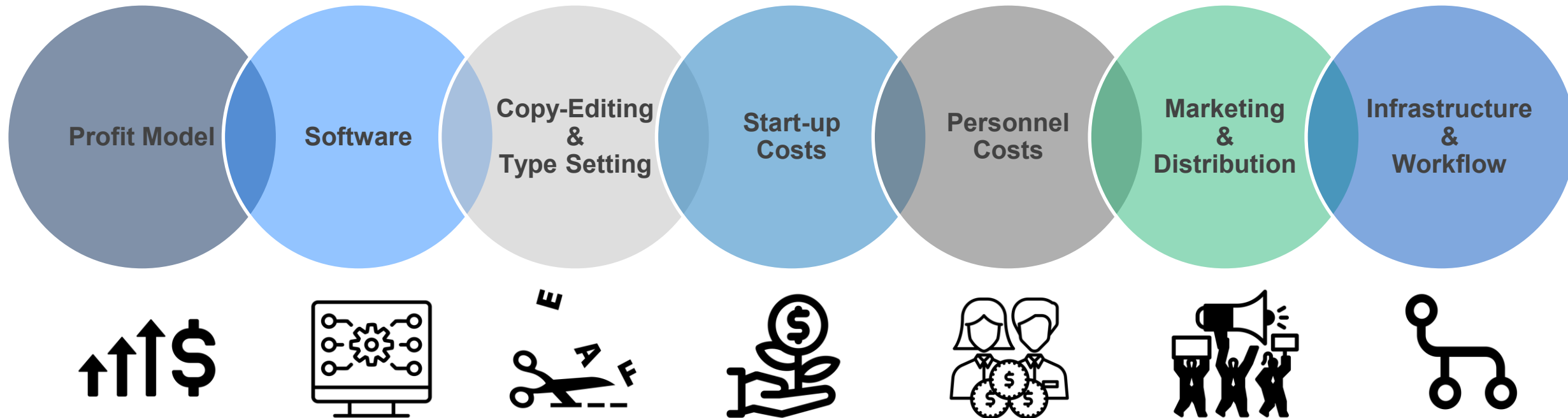
High-impact OA *journal* APCs increased 86-135% between 2011-2021

Low-impact OA *journal* APCs increased 1-36% between 2011-2021

DIFFERENT OA PUBLISHING MODELS

DIFFERENT INPUTS

Different business models & costs contribute to OA price variations



FINDINGS

BMGF OA PUBLISHING DATA

BMGF has also noted rapidly rising costs & imperfect policy adherence

2017-2022: BMGF OA spending **increased 2.5x** from:
\$2.69 million to \$6.9 million USD



2021: Median BMGF OA APC spend was \$3,112 USD, comparable
with Wellcome Trust's median OA APC spend of \$3,055 USD



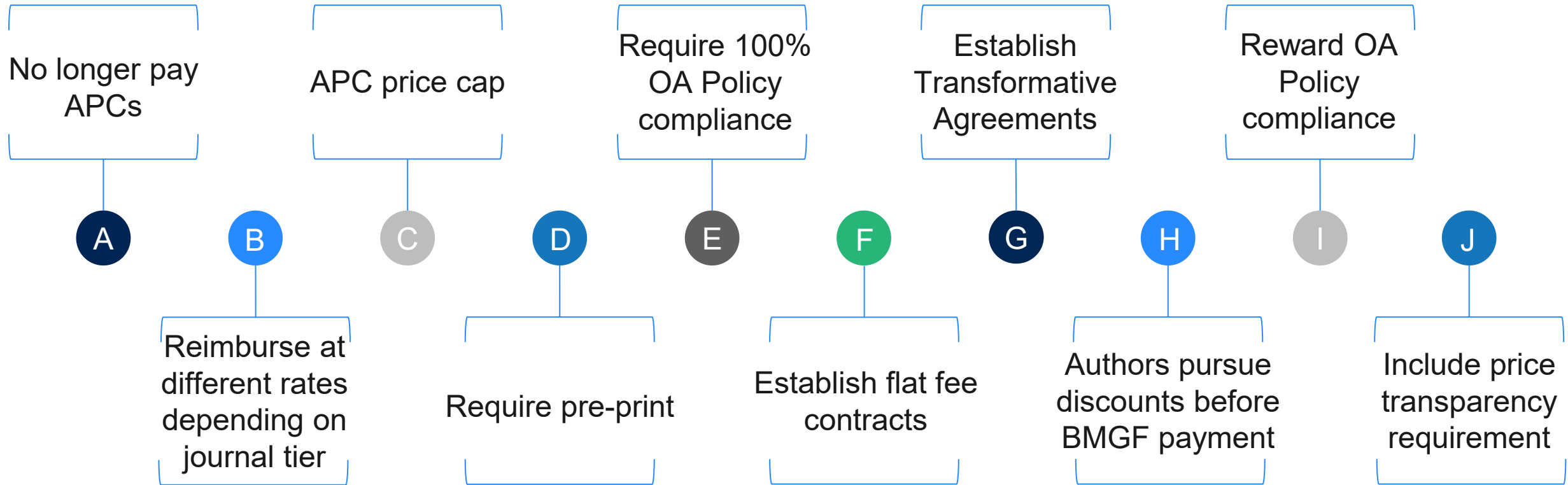
2022: ~83% of grantees were compliant with the BMGF OA Policy



FINDINGS

Open Access Policy Opportunities

POLICY OPPORTUNITIES



CONSIDERATIONS FOR POLICY OPPORTUNITIES

Economic

- Reduces financial burden for BMGF
- Reduces financial burden for authors
- BMGF reduces support for large commercial publishers

Logistic

- Reduces logistical burden for BMGF
- Reduces logistical burden for authors
- BMGF reduces interaction with publishers

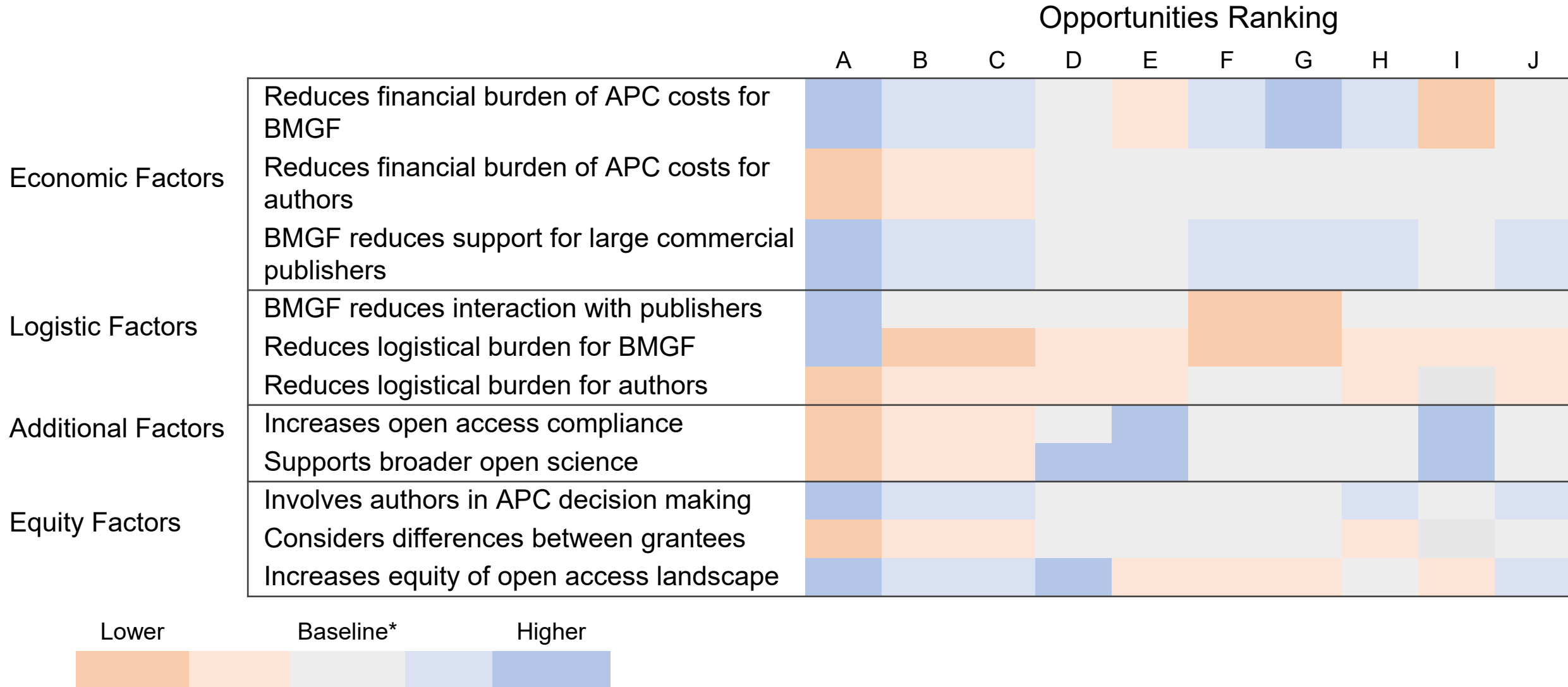
Equity

- Considers differences between grantees
- Increases equity of open access landscape

Open Access

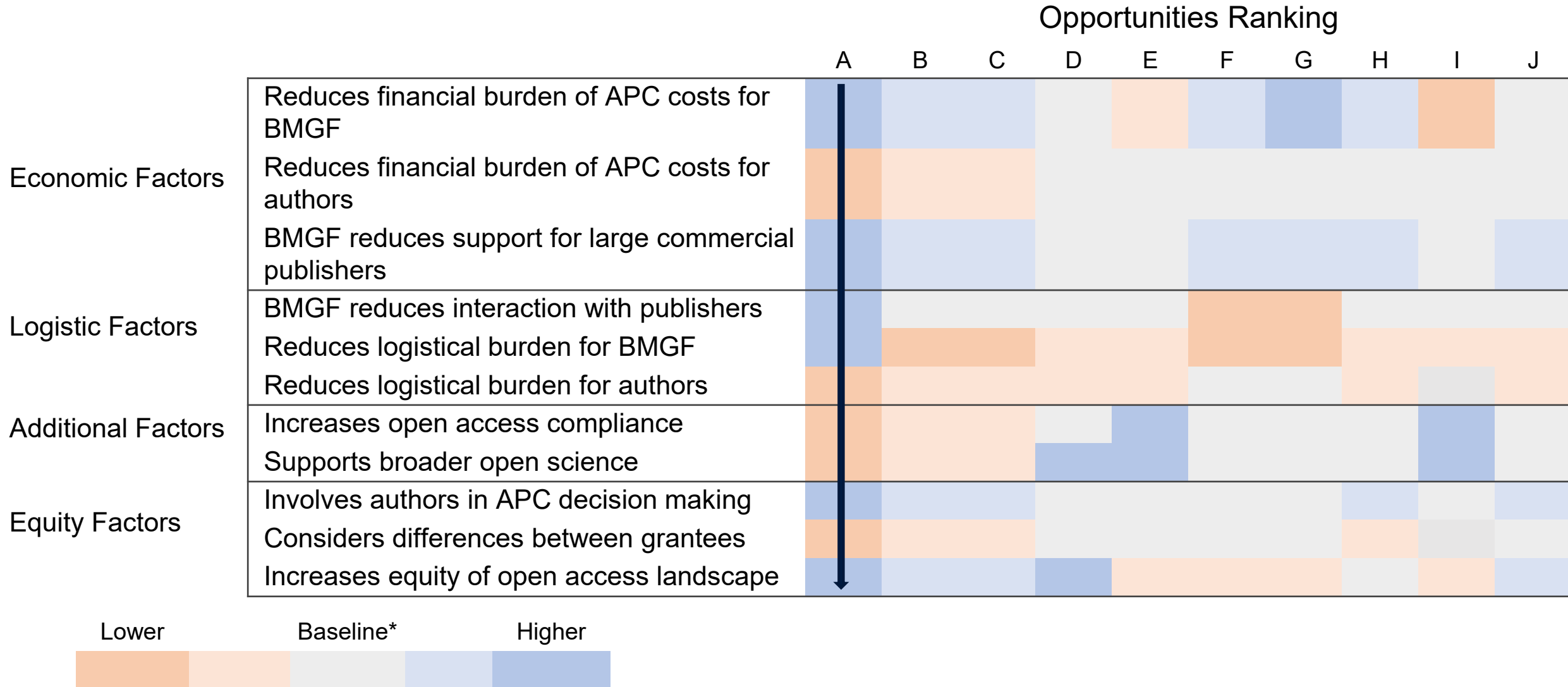
- Increases open access compliance
- Supports broader open science

POLICY OPPORTUNITIES



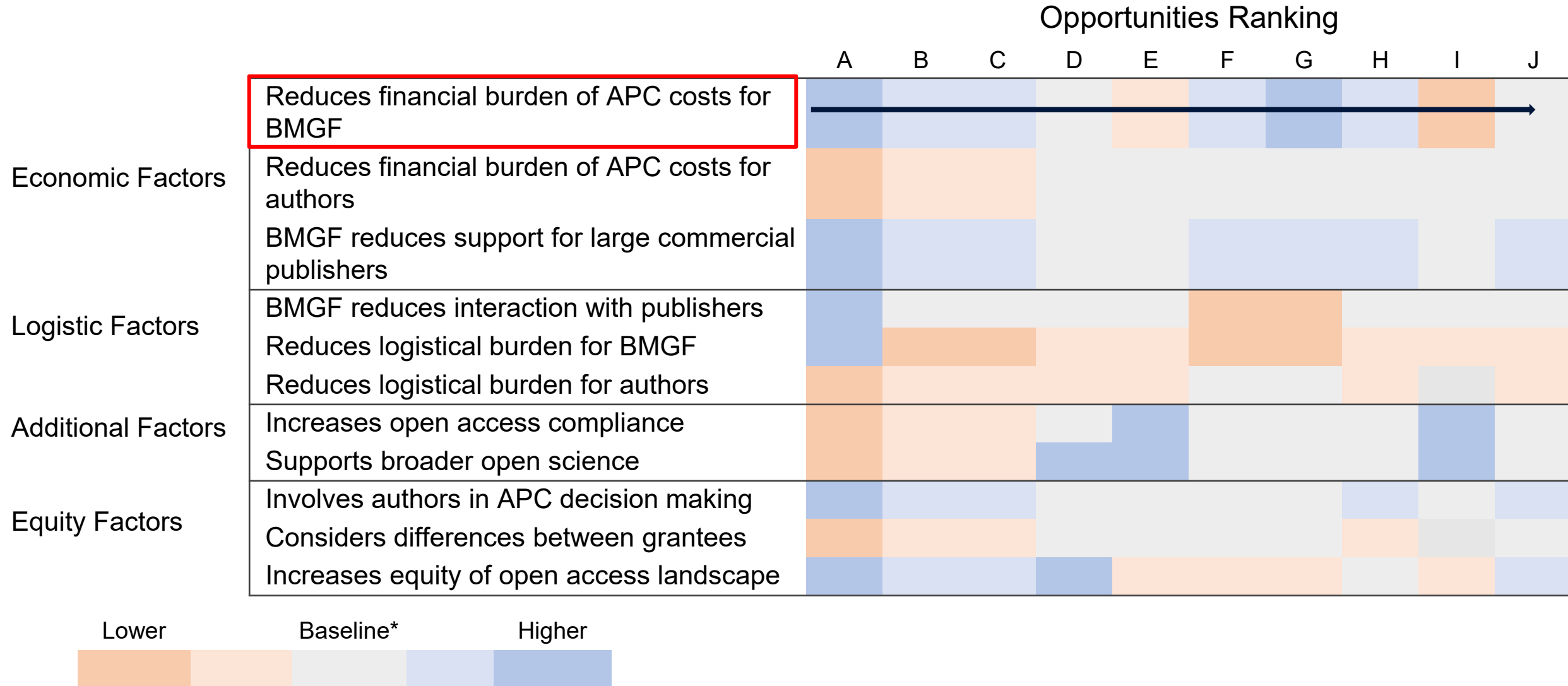
*Baseline is the current BMGF Open Access policy

POLICY OPPORTUNITIES



*Baseline is the current BMGF Open Access policy

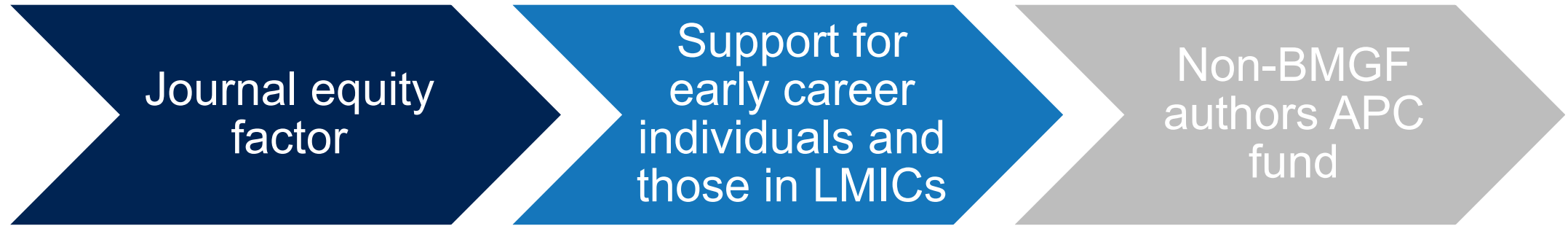
POLICY OPPORTUNITIES



*Baseline is the current BMGF Open Access policy

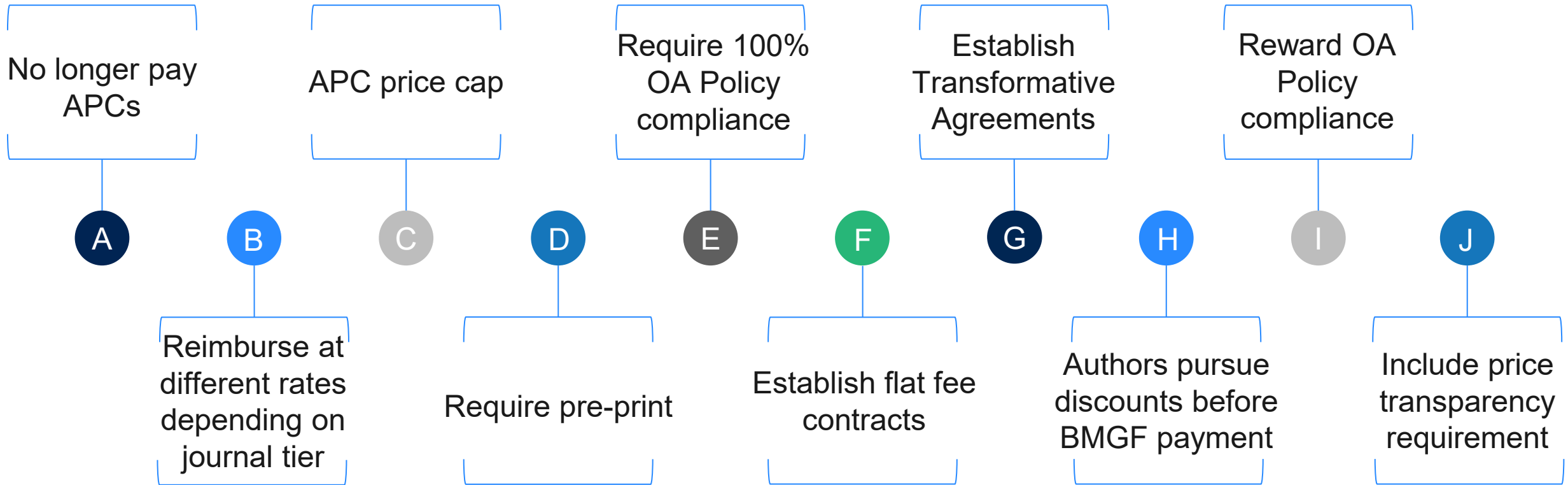
EQUITY CONSIDERATIONS

The equity impact is important to consider regardless of which opportunities are chosen

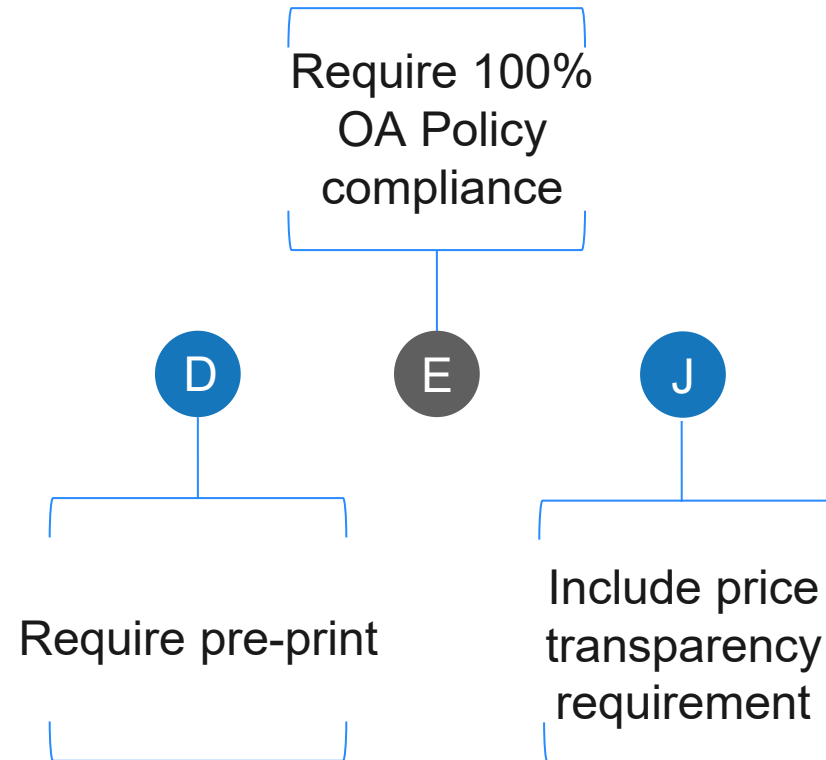


"We want to help those who are most at risk, which is not the aim of the European/U.S. system, so we need to think about how we can redirect funds into other systems. It is not about driving down costs, but more about how to redirect funds and the position of power"

POLICY OPPORTUNITIES



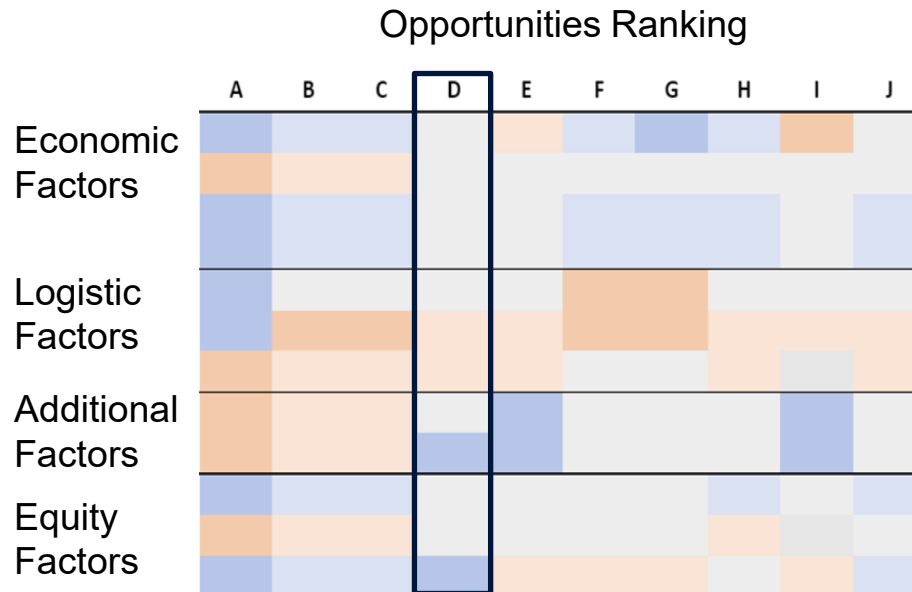
KEY OPPORTUNITIES



REQUIRE PRE-PRINTS

OPPORTUNITY D

Authors would be required to pre-print their manuscript in an OA repository before the subsequent journal APC is reimbursed



Research findings would be immediately available



No projected economic impact on BMGF or authors



Increased logistic burden for BMGF and authors

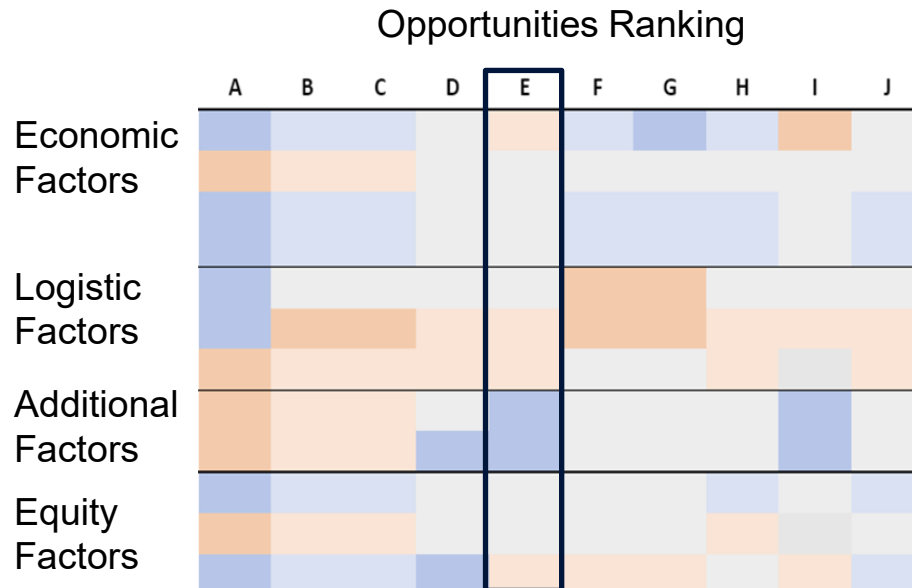


Concerns of rigor of preprints, uncertainty around regulation of open review

BMGF REQUIRES 100% OA COMPLIANCE

OPPORTUNITY E

APCs are not reimbursed unless articles are fully compliant with BMGF OA Policy



Increased access to BMGF funded research



Authors bear no OA APC costs, unless non-compliant



Increased logistical burden/monitoring for BMGF

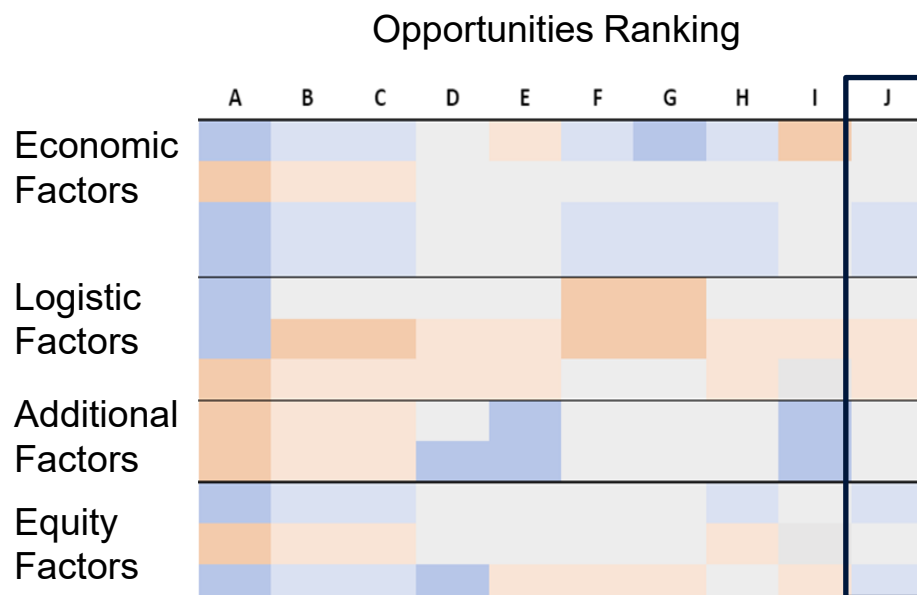


Journal selection limited to compliant journals

PRICE TRANSPARENCY REQUIREMENT

OPPORTUNITY J

Authors would be required to publish in journals that included price transparency



Drive down and control OA APC costs through increased market competition



No projected economic impact for BMGF or authors



Additional burden for authors to identify compliant journals



Journal selection limited to compliant journals



KEY TAKEAWAYS & NEXT STEPS

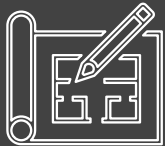
KEY TAKEAWAYS



Foundation is doing a great job already, key informants were appreciative of the interviews and chance to share



Continue to publish BMGF-paid APC prices



OA policy has significant implication both inside and outside the foundation, BMGF has put a lot of thought and consideration into policy



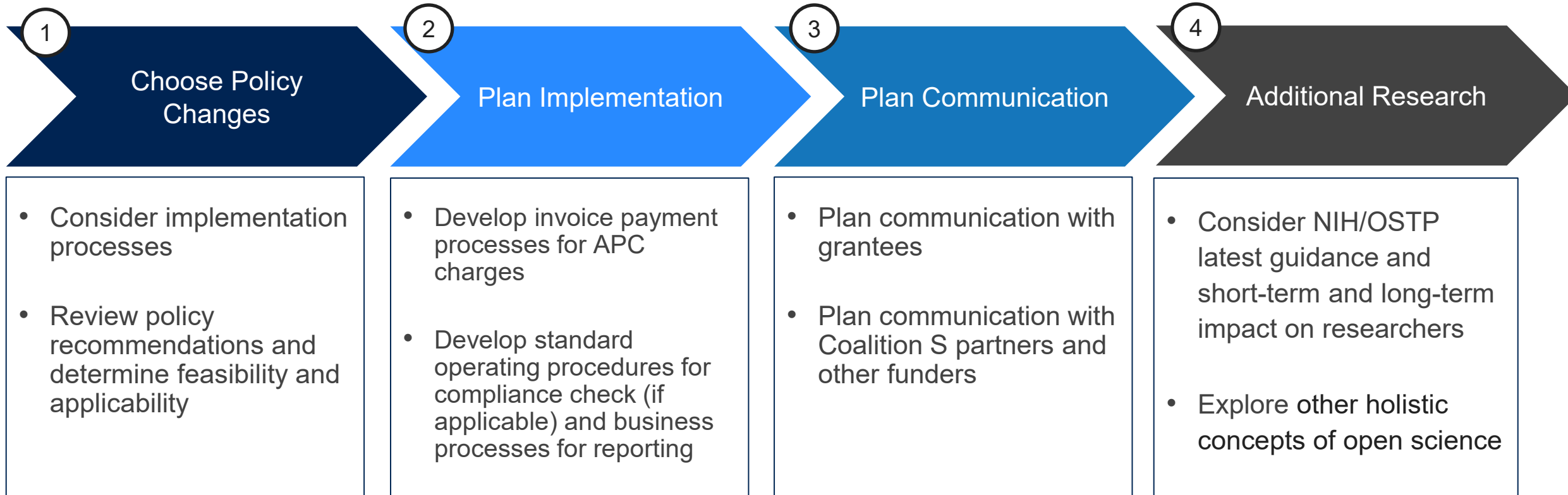
No color or added supplemental charges

Require pre-prints without compliance check

Consider equity initiatives (LMIC fund)



NEXT STEPS



WHAT YOU CAN DO AS A RESEARCHER

SUPPORTING THE OA ECOSYSTEM & EQUITY CHALLENGES

- Before publishing, check if you can access any discounts
 - Institutional-publisher agreements
 - Society membership discounts
 - Reviewer discounts
 - Just ask!
- Use the [Journal Checker Tool](#) to verify journal OA status & OA policy compliance
- Seek CC-BY licensing for your work
 - Most permissive while still ensuring that you as the creator maintains ownership
- Consider using pre-prints to support open science movement & increase your citations
- When possible, try to publish in non-profit or lower cost journals
- Choose to publish non-hybrid OA when possible and advocate for OA if on journal editorial board(s)

THANK YOU QUESTIONS?



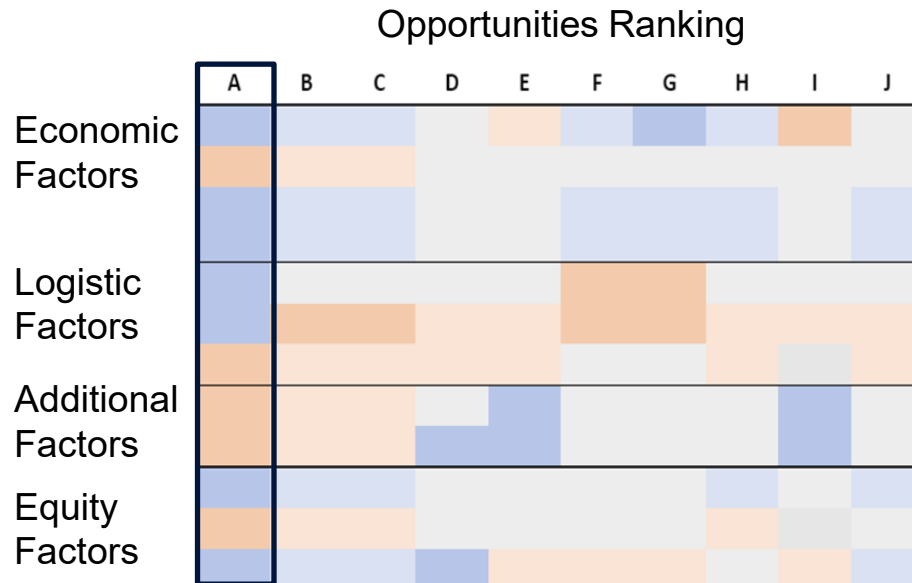
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APPENDIX

NO LONGER PAY APCs

OPPORTUNITY A

The BMGF no longer reimburses OA APCs to funded authors



Disincentivizes an inequitable OA publishing model



BMGF attains multi-million dollar cost savings



Enforcing & tracking OA compliance may be difficult

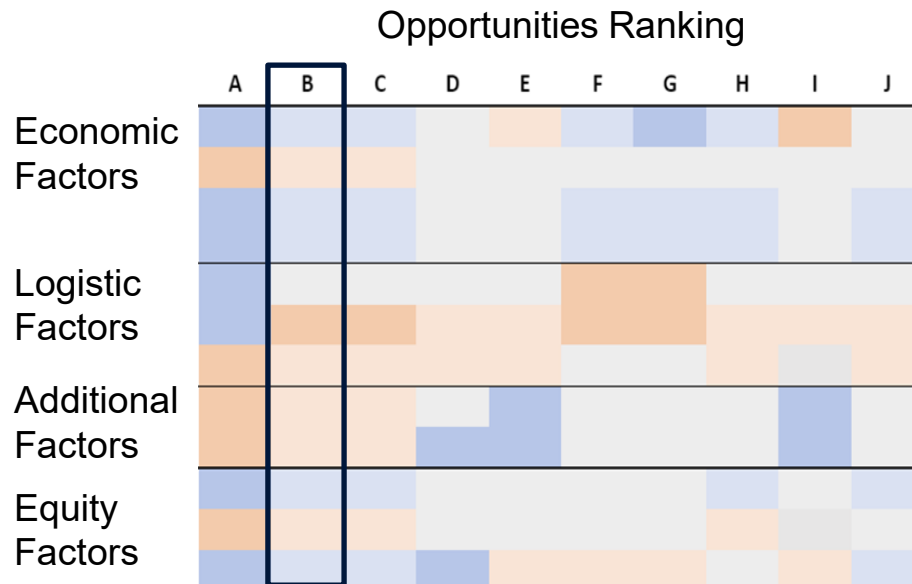


OA publishing cost becomes disproportionately higher for authors with fewer resources

REIMBURSE OA APCs AT DIFFERENT RATES DEPENDING ON JOURNAL TIER

OPPORTUNITY B

The BMFG would identify "tiers" for journals based on APC price, journal value, etc., and reimburse APCs and different rates by journal tier



OA APC cost-value considered disincentivizing selection of for-profit, high-cost, lower value journals.



Increased involvement of authors in APC payment may increase their price sensitivity



Enforcing & tracking OA compliance may be more challenging



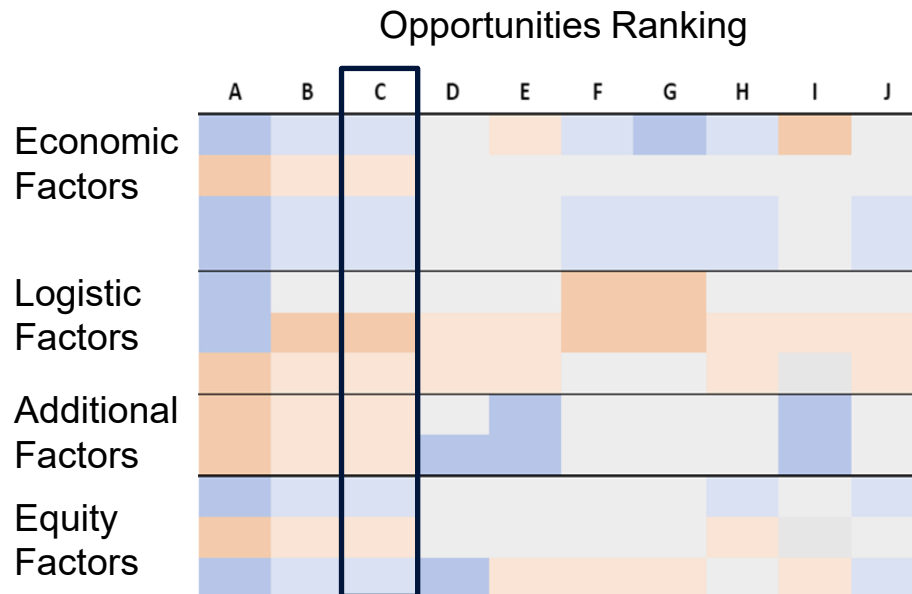
OA journal selection reduced for authors with fewer resources



INTRODUCE PRICE CAP

OPPORTUNITY C

BMGF would only reimburse a portion of APCs by implementing a price cap



➤ Reduces money going towards publishers



➤ Increased involvement of authors in APC payment may increase their price sensitivity

➤ Reduced costs for BMGF

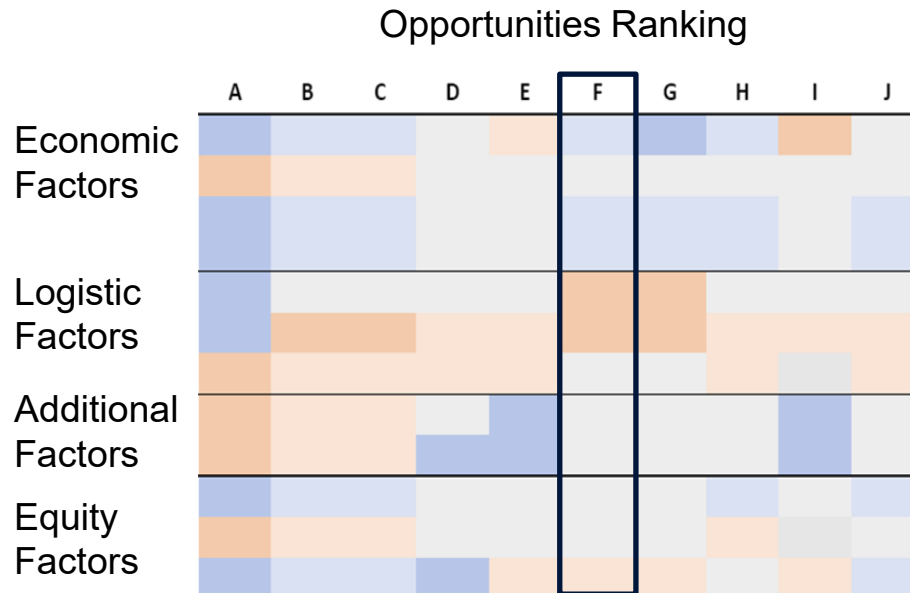


➤ Increased logistical burden for BMGF and authors

ESTABLISH FLAT FEE CONTRACTS

OPPORTUNITY F

BMGF establishes flat fee contracts with certain publishers that take into account the 'total cost of publication'



Minimal or no impact on authors



May encourage publishers to adopt a 'total cost of publication' model, doing away with extra fees



May serve the interests of for-profit publishers as 'total cost of publication' varies by journal

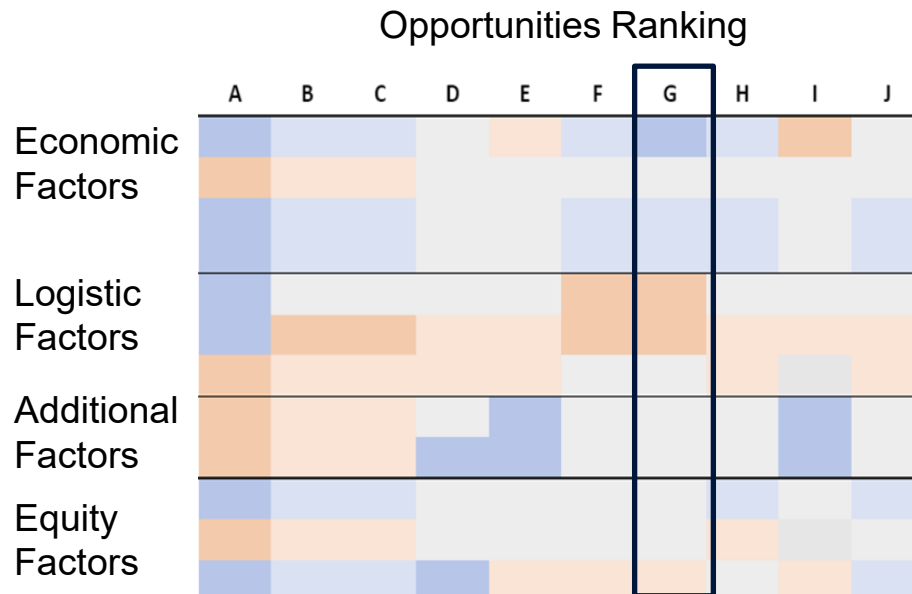


Added BMGF labor & administration to develop & maintain contracts

ESTABLISH TRANSFORMATIVE AGREEMENTS

OPPORTUNITY G

BMGF would develop and sign transformative agreements with their top volume publishers



Minimal or no impact on authors



May provide additional support to not-for-profit and more transparent publishers



Added BMGF labor & administration to develop & maintain contracts



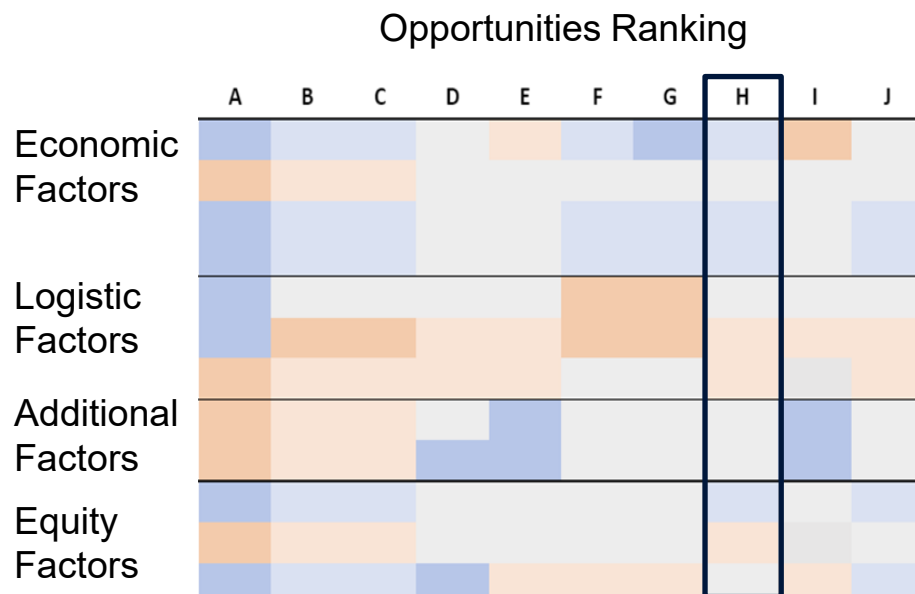
May contribute to existing industry inequities by supporting larger publishers in the Global North & potentially redirecting content & financing away from smaller publishers



AUTHORS PURSUE DISCOUNTS BEFORE BMGF PAYMENT

OPPORTUNITY H

Authors take advantage of existing discounts, allowing BMGF to finance lower APCs instead of the 'premium' list prices it currently reimburses



➤ Positively impacts broader OA landscape (e.g. inflation control, increased data on variable TA pricing)



➤ Authors bear no OA APC costs & are more engaged, potentially increasing their price sensitivity

➤ BMGF attains partial cost savings

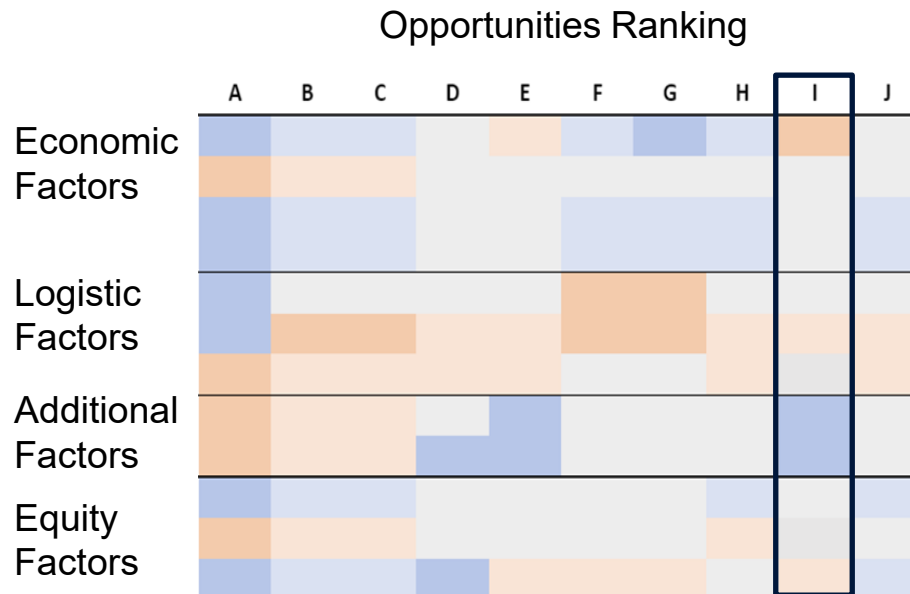


➤ Added author task of identifying & pursuing discounts

REWARD AUTHORS THAT PUBLISH OPEN ACCESS

OPPORTUNITY I

Update the BMGF Open Access Policy to reward authors that comply and publish open access



May increase OA compliance & access to BMGF funded research



Authors positively rewarded/recognized instead of being punished



Higher overall BMGF OA costs



Added administrative task of tracking & delivering incentives

FULL KII LIST

ACTUAL & POTENTIAL KIIs

Organization	Division	Key Informant Name	Key Informant Email
PLOS ONE	Publisher	Niamh O'Connor	noconnor@plos.org
SFU	Academic	Juan Pablo Alperin, Public Knowledge Project	jalperin@sfu.ca
UW	Economist	Jennifer Koski	jkoski@uw.edu
UC System	Economist	Jeff Mackie Mason	jmmason@berkeley.edu
UC System	Economist	Mat Willmott	Mathew.Willmott@ucop.edu
Bielefeld University	Academic Librarian	Nina Schönfelder	nina.schoenfelder@uni-bielefeld.de
UC System	Academic Librarian	Günter Waibel	guenter.waibel@ucop.edu
Wellcome Trust	Consultant	Hannah Hope	h.hope@wellcome.org
African Health Sciences Editorial Office	Researcher/Editor	Benidictor Muhwezi	benidictmak@gmail.com
F1000	Publisher	Hannah Wilson	hannah.wilson@f1000.com
UW	Librarian/Funder	Corey Murata	murata@uw.edu
UW	Librarian/Funder	Diana Loudon	dknl@uw.edu
UW	Librarian/Funder	Gordon Aamot	aamot@uw.edu
	Journal Editor/Public Health Researcher	Chinwe Juliana Iwu-Jaja	chinwelolo@gmail.com
List of Potential Additional KIIs			
Springer Nature	Publisher	Carrie Webster, VP Open Access	carrie.webster@springernature.com
Nature	Academic	Richard Van Noorden	richardvannoorden@protonmail.com
University of Ottawa	Academic	Heather Morrison, Prof Information Systems	Heather.Morrison@uottawa.ca
UC Santa Barbara	Academic	Ted Bergstrom	tedb@econ.ucsb.edu
UW	Academic	Jevin West, Prof Information School	jevinw@uw.edu
UW	Economist	Philip Bond	apbond@uw.edu
UW	Economist	Jarrad Harford	jarrad@uw.edu
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UKRI	Librarian/Funder	Rachel Bruce	rachel.bruce@ukri.org
African Academy of Sciences	Researcher	Elizabeth Marinola	
African Journal of Emergency Medicine	Researcher/Editor	Lee Wallis	
Universitas Pendidikan Indonesia	Publisher	Asep Bayu Dani Nandiyanto	nandiyanto@upi.edu



REFERENCES

- A new mandate highlights costs, benefits of making all scientific articles free to read.* (n.d.). Retrieved October 13, 2022, from <https://www.science.org/content/article/new-mandate-highlights-costs-benefits-making-all-scientific-articles-free-read>
- Alperin, J. P. (2022). Why I think ending article-processing charges will save open access. *Nature*, 610(7931), 233–233. <https://doi.org/10.1038/d41586-022-03201-w>
- Alperin, J. P., Fischman, G. E., & Willinsky, J. (2008). Open access and scholarly publishing in Latin America: ten flavours and a few reflections. *Liinc Em Revista*. <https://www.semanticscholar.org/paper/Open-access-and-scholarly-publishing-in-Latin-ten-a-Alperin-Fischman/24d87741253f509bc77e8b4ffec14da3d6cd3b16>
- Ancion, Zoé, Borrell-Damián, Lidia, Mounier, Pierre, Rooryck, Johan, & Saenen, Bregt. (2022). *Action Plan for Diamond Open Access*. <https://doi.org/10.5281/ZENODO.6282402>
- Anderson, R. (2017, February 21). *The Forbidden Forecast: Thinking About Open Access and Library Subscriptions*. <https://scholarlykitchen.sspnet.org/2017/02/21/forbidden-forecast-thinking-open-access-library-subscriptions/>
- Bergstrom, T. (2022). *JournalPrices | Cost-effective journal search*. <https://www.journalprices.com>
- Beverungen, A., Böhm, S., & Land, C. (2012). The poverty of journal publishing. *Organization*, 19(6), 929–938. <https://doi.org/10.1177/1350508412448858>
- Björk, B.-C., & Korkeamäki, T. (2020). Adoption of the Open Access Business Model in Scientific Journal Publishing: A Cross-disciplinary Study. *College & Research Libraries*, 81(7). <https://doi.org/10.5860/crl.81.7.1080>
- Björk, B.-C., & Solomon, D. (2012). Pricing principles used by scholarly open access publishers. *Learned Publishing*, 25(2), 132–137. <https://doi.org/10.1087/20120207>
- Brainard, J. (2021). *Open Access Takes Flight*. Science. https://www.science.org/content/article/new-mandate-highlights-costs-benefits-making-all-scientific-articles-free-read?utm_source=Nature+Briefing&utm_campaign=59523ecf2a-briefing-dy-20210105&utm_medium=email&utm_term=0_c9dfd39373-59523ecf2a-45499146
- Brink, P. A. (2021). Costing academic publications: author-pay principle, and manuscript submission and article processing charges. *Cardiovascular Journal of Africa*, 32(3), 115.
- Budzinski, O., Grebel, T., Wolling, J., & Zhang, X. (2020). Drivers of article processing charges in open access. *Scientometrics*, 124, 2185–2206. <https://doi.org/10.1007/s11192-020-03578-3>
- Charges, licences, and self-archiving. (n.d.). *Oxford Academic*. <https://academic.oup.com/pages/open-research/open-access/charges-licences-and-self-archiving>
- Chi Chang, C. (2006). Business models for open access journals publishing. *Online Information Review*, 30(6), 699–713. <https://doi.org/10.1108/14684520610716171>
- Cleusa, P., & Barbosa, M. (2018). Article processing charge (APC) for publishing open access articles: the Brazilian scenario. *Scientometrics*, 117. <https://doi.org/10.1007/s11192-018-2896-2>
- Complying with our open access policy. (n.d.). *Wellcome Trust*. <https://wellcome.org/grant-funding/guidance/open-access-guidance/complying-with-our-open-access-policy>
- Crotty, D. (2021, April 28). *New Open Access Business Models — What's Needed to Make Them Work?* The Scholarly Kitchen. <https://scholarlykitchen.sspnet.org/2021/04/28/new-open-access-business-models-whats-needed-to-make-them-work/>
- Developing an Effective Market for Open Access Article Processing Charges Bo-Christer Björk and David Solomon. (n.d.). *Docslib*. Retrieved January 27, 2023, from <https://docslib.org/doc/9048597/developing-an-effective-market-for-open-access-article-processing-charges-bo-christer-bj%C3%B6rk-and-david-solomon>
- Dove, J., Kennison, R., Steel, G., Delos Reyes, L., & Dutilloy, J. (2019, November 7). *Guest Post — Transparency: What Can One Learn from a Trove of Invoices?* The Scholarly Kitchen. <https://scholarlykitchen.sspnet.org/2019/11/07/guest-post-transparency-what-can-one-learn-from-a-trove-of-invoices/>
- Economic Landscape of Federal Public Access Policy*. (2022). The Office of Science and Technology Policy.
- Farley, A., Langham-Putrow, A., Shook, E., Sterman, L. B., & Wach, M. (2021). Transformative agreements: Six myths, busted. *College & Research Libraries News*, 82(7), 298. <https://doi.org/10.5860/crln.82.7.298>
- Flipping journals to open: Rethinking publishing infrastructure in light of Lingua/Glossa case. (2015, December 3). *Impact of Social Sciences*. <https://blogs.lse.ac.uk/impactofsocialsciences/2015/12/03/seizing-the-moment-is-our-understanding-of-open-access-too-shortsighted/>

REFERENCES CONT.

- FOAA Breakdown of Publication Services and Fees. (n.d.). Fair Open Access Alliance. <https://www.faiopenaccess.org/foaa-breakdown-of-publication-services-and-fees/>
- Forschungsgemeinschaft, D. (2022). *Open Science as Part of Research Culture. Positioning of the German Research Foundation*. <https://doi.org/10.5281/zenodo.7194537>
- Fosci, M., Richens, E., & Johnson, R. (2019). *Insights into European research funder Open policies and practices*. I: 10.5281/zenodo.340127
- Fraser, N., Momeni, F., Mayr, P., & Peters, I. (2020). The relationship between bioRxiv preprints, citations and altmetrics. *Quantitative Science Studies*, 1–21. https://doi.org/10.1162/qss_a_00043
- Fu, D. Y., & Hughey, J. J. (2019). Releasing a preprint is associated with more attention and citations for the peer-reviewed article. *ELife*, 8, e52646. <https://doi.org/10.7554/eLife.52646>
- Garlinghouse, M. (2022, August 17). Open Access Is Essential for Low-Income Countries. *The Official PLOS Blog*. <https://theblog.plos.org/2022/08/open-access-is-essential-for-low-income-countries/>
- Gownaris, N. J., Vermeir, K., Bittner, M.-I., Gunawardena, L., Kaur-Ghumaan, S., Lepenies, R., Ntsefong, G. N., & Zakari, I. S. (2022). Barriers to Full Participation in the Open Science Life Cycle among Early Career Researchers. *Data Science Journal*, 21, NA-NA. <https://go.gale.com/ps/i.do?p=AONE&sw=w&issn=16831470&v=2.1&it=r&id=GALE%7CA689920937&sid=googleScholar&linkaccess=abs>
- Grossmann, A., & Brembs, B. (2021). *Current market rates for scholarly publishing services* (10:20). F1000Research. <https://doi.org/10.12688/f1000research.27468.2>
- Hallenbeck, K. (2022, September 22). What is better for your career than a publication? A preprint. *ASBMB Today*. <https://www.asbmb.org/asbmb-today/opinions/092222/preprints-better-for-career-than-pubs>
- Haucap, J., Moshgbar, N., & Schmal, W. B. (2021). The impact of the German “DEAL” on competition in the academic publishing market. *Managerial and Decision Economics*, 42(8), 2027–2049. <https://doi.org/10.1002/mde.3493>
- Hawkins, K. S. (2014). The Evolution of Publishing Agreements at the University of Michigan Library. *Journal of Librarianship and Scholarly Communication*, 2(4). <https://doi.org/10.7710/2162-3309.1175>
- Health, T. L. P. (2022). Publishing at what cost? *The Lancet Planetary Health*, 6(3), e180. [https://doi.org/10.1016/S2542-5196\(22\)00048-1](https://doi.org/10.1016/S2542-5196(22)00048-1)
- How does the DFG support open access in infrastructure funding?* (n.d.). www.Dfg.De. Retrieved January 27, 2023, from https://www.dfg.de/en/research_funding/programmes/infrastructure/lis/open_access/infrastructure_funding/index.html
- <https://plus.google.com/+UNESCO>. (2020, March 2). *UNESCO Recommendation on Open Science*. UNESCO. <https://en.unesco.org/science-sustainable-future/open-science/recommendation>
- Jahn, N., Matthias, L., & Laakso, M. (2022). Toward transparency of hybrid open access through publisher-provided metadata: An article-level study of Elsevier. *Journal of the Association for Information Science and Technology*, 73(1), 104–118. <https://doi.org/10.1002/asi.24549>
- Kiley, R. (2014). *Developing an effective market for Open Access Article Processing Charges*. 0 Bytes. <https://doi.org/10.6084/M9.FIGSHARE.951966.V2>
- Klebel, T., Reichmann, S., Polka, J., McDowell, G., Penfold, N., Hindle, S., & Ross-Hellauer, T. (2020). Peer review and preprint policies are unclear at most major journals. *PLoS ONE*, 15(10). <https://doi.org/https://doi.org/10.1371/journal.pone.0239518>
- Larivière, V., Haustein, S., & Mongeon, P. (2015). The Oligopoly of Academic Publishers in the Digital Era. *PLOS ONE*, 10(6), e0127502. <https://doi.org/10.1371/journal.pone.0127502>
- Legge, M. (2023, January 31). *The ‘OA market’ – what is healthy? Part 2*. OASPA. <https://oaspa.org/the-oa-market-what-is-healthy-part-2/>
- Liao, T.-I. (n.d.). The Changing Landscape of Open Access Compliance. *Digital Science*. <https://www.digital-science.com/blog/2022/10/the-changing-landscape-of-open-access-compliance/>
- Maddi, A., & Sapinho, D. (2022). *Article Processing Charges, Altmetrics and Citation Impact: Is there an economic rationale?* <https://ui.adsabs.harvard.edu/abs/2022arXiv220306218M>
- Mellins-Cohen, T. (2021). Price transparency: let’s make it simple. *UKSG Insights*, 34(17), 1. <https://doi.org/http://doi.org/10.1629/uksg.551>
- Monaghan, J., Mithu Lucraft, & Allin, K. (2020). “APCs in the Wild”: Could Increased Monitoring and Consolidation of Funding Accelerate the Transition to Open Access? (p. 972131 Bytes). https://figshare.com/articles/APCs_in_the_Wild_Could_Increased_Monitoring_and_Consolidation_of_Funding_Accelerate_the_Transition_to_Open_Access_/11988123/4
- More than 2000 journals share price and service data through Plan S’s Journal Comparison Service. (2022, November 16). *Plan S*. <https://www.coalition-s.org/more-than-2000-journals-share-price-and-service-data-through-journal-comparison-service/>
- Morrison, H., Borges, L., Zhao, X., Kakou, T. L., & Shanbhog, A. N. (2022). Change and growth in open access journal publishing and charging trends 2011–2021. *Journal of the Association for Information Science and Technology*, 73(12), 1793–1805. <https://doi.org/10.1002/asi.24717>



REFERENCES CONT.

- Morrison, H. E. Al. (2021). 2011 - 2021 OA APCs. Borealis. <https://doi.org/10.5683/SP2/84PNSG>
- Morrison, H., Salhab, J., Calve-Genest, A., & Horava, T. (2015). Open access article processing charges: DOAJ survey. *Publications*, 3(1), 1–16. <https://doi.org/https://doi.org/10.3390/publications3010001>
- moulton, lawrence. (2016). *readme.txt contains an overall explanation of the data sets*. Harvard Dataverse. <https://doi.org/10.7910/DVN/YXMQZM>
- Nassi-Calò, L. (2013, September 18). *How much does it cost to publish in Open Access?* | *SciELO in Perspective*. <https://blog.scielo.org/en/2013/09/18/how-much-does-it-cost-to-publish-in-open-access/>
- Newton, M. P., Cunningham, E. T., & O'Connell, K. (2014). Counting the Cost: A Report on APC-Supported Open Access Publishing in a Research Library. *Journal of Librarianship and Scholarly Communication*, 2(4). <https://doi.org/10.7710/2162-3309.1184>
- Niles, M. T., Schimanski, L. A., McKiernan, E. C., & Alperin, J. P. (2020). Why we publish where we do: Faculty publishing values and their relationship to review, promotion and tenure expectations. *PLoS ONE*, 15(3). <https://doi.org/https://doi.org/10.1371/journal.pone.0228914>
- Nishikawa-Pacher, A. (2022). Who are the 100 largest scientific publishers by journal count? A webscraping approach. *Journal of Documentation*, 78(7), 450–463. <https://doi.org/10.1108/JD-04-2022-0083>
- OECD. (2019). *Measuring the Digital Transformation: A Roadmap for the Future*. OECD. <https://doi.org/10.1787/9789264311992-en>
- Olejniczak, A. J., & Wilson, M. J. (2020). Who's writing open access (OA) articles? Characteristics of OA authors at Ph.D.-granting institutions in the United States. *Quantitative Science Studies*, 1(4), 1429–1450. https://doi.org/10.1162/qss_a_00091
- Open Access business models for journals*. (n.d.). Retrieved October 7, 2022, from <https://open-access.network/en/information/financing/business-models-for-journals>
- Open Access Colours: green, gold, diamond, hybrid and more*. (2022). Ghent University. <https://onderzoektips.ugent.be/en/tips/00000461/>
- Open Science and Research Handbook*. (n.d.). FOSTER FACILITATE OPEN SCIENCE TRAINING FOR EUROPEAN RESEARCH. Retrieved February 28, 2023, from <https://www.fosteropenscience.eu/content/open-science-and-research-handbook>
- OSTP Issues Guidance to Make Federally Funded Research Freely Available Without Delay*. (n.d.). The White House. Retrieved October 11, 2022, from <https://www.whitehouse.gov/ostp/news-updates/2022/08/25/ostp-issues-guidance-to-make-federally-funded-research-freely-available-without-delay/>
- (PDF) *Current market rates for scholarly publishing services*. (n.d.). Retrieved November 4, 2022, from https://www.researchgate.net/publication/348421916_Current_market_rates_for_scholarly_publishing_services
- Pinfield, S., Salter, J., & Bath, P. (2015). The “total cost of publication” in a hybrid open-access environment: Institutional approaches to funding journal article-processing charges in combination with subscriptions. *Journal of the Association for Information Science and Technology*, 67(7), 1751–1766. <https://doi.org/https://doi.org/10.1002/asi.23446>
- Piowar, H., Priem, J., Larivière, V., Alperin, J. P., Matthias, L., Norlander, B., Farley, A., West, J., & Haustein, S. (2018). The state of OA: a large-scale analysis of the prevalence and impact of Open Access articles. *PeerJ*, 6, e4375. <https://doi.org/10.7717/peerj.4375>
- Plan S Price Transparency Frameworks: guidance & requirements. (n.d.). *Coalition S*. <https://www.coalition-s.org/price-and-service-transparency-frameworks/>
- Plan S Rights Retention Strategy | Plan S*. (n.d.). Retrieved February 28, 2023, from <https://www.coalition-s.org/rights-retention-strategy/>
- Preprints boost article citations and mentions*. (2019, July 9). Nature Index. <https://www.nature.com/nature-index/news-blog/preprints-boost-article-citations-and-mentions>
- Prior, A. (2013). Key Issue - The ‘Finch Report’: the future is gold, but many challenges lie ahead. *Insights: The UKSG Journal*, 26(1), 77–81. <https://doi.org/10.1629/2048-7754.26.1.77>
- Publication fees in open access publishing: Sources of funding and factors influencing choice of journal 63(1) 2012, 98–107. (2013). *Journal of the American Society for Information Science and Technology*, 64(5), 1089–1089. <https://doi.org/10.1002/asi.22967>
- Ravinetto, R., Caillet, C., Zaman, M. H., Singh, J. A., Guerin, P. J., Ahmad, A., Durán, C. E., Jesani, A., Palmero, A., Merson, L., Horby, P. W., Bottieau, E., Hoffmann, T., & Newton, P. N. (2021). Preprints in times of COVID19: the time is ripe for agreeing on terminology and good practices. *BMC Medical Ethics*, 22(1), 106. <https://doi.org/10.1186/s12910-021-00667-7>

REFERENCES CONT.

- RCUK, U. (2020). *RCUK Policy on Open Access and Supporting Guidance* (p. 13) [Policy]. Research Council United Kingdom. <https://www.ukri.org/wp-content/uploads/2020/10/UKRI-020920-OpenAccessPolicy.pdf>
- Ross-Hellauer, T. (2022). Open science, done wrong, will compound inequities. *Nature*, 603(7901), 363–363. <https://doi.org/10.1038/d41586-022-00724-0>
- Schönfelder, N., de Looper, A., & Stavenga, M. (2022). *A new model for transformative agreements and its implementation by a small publisher: enhancing a smooth transition to open access*. 991707 bytes. <https://doi.org/10.4119/UNIBI/2939995>
- Serghiou, S., & Ioannidis, J. P. A. (2018). Altmetric Scores, Citations, and Publication of Studies Posted as Preprints. *JAMA*, 319(4), 402–404. <https://doi.org/10.1001/jama.2017.21168>
- Sharot, T. (2017, September 26). What Motivates Employees More: Rewards or Punishments? *Motivating People*. <https://hbr.org/2017/09/what-motivates-employees-more-rewards-or-punishments>
- Shaun Yon-Seng Khoo. (2020). Article Processing Charge Hyperinflation and Price Insensitivity: An Open Access Sequel to the Serials Crisis | Shaun Yon-Seng Khoo | Liber Quarterly, Volume 29 2019. *Open Research Community*. <http://openresearch.community/users/342784-pablo-markin/documents/59263-10280-22863-1-pb>
- Smith, A. C., Merz, L., Borden, J. B., Gulick, C. K., Kshirsagar, A. R., & Bruna, E. M. (2021). Assessing the effect of article processing charges on the geographic diversity of authors using Elsevier's "Mirror Journal" system. *Quantitative Science Studies*, 2(4), 1123–1143. https://doi.org/https://doi.org/10.1162/qss_a_00157
- Solomon, D., & Björk, B.-C. (2016). Article processing charges for open access publication—the situation for research intensive universities in the USA and Canada. *PeerJ*, 4, e2264. <https://doi.org/10.7717/peerj.2264>
- Taubert, N. C., Hobert, A., Jahn, N., Bruns, A., & Iravani, E. (2022). *Understanding differences of the OA uptake within the German university landscape (2010-2020) – Part 1: journal-based OA*. <https://pub.uni-bielefeld.de/record/2965953>
- Thaler, R. (2009). *Nudge: Improving Decisions About Health, Wealth, and Happiness*.
- The Ergonomics Society of South Africa – Design and evaluation of tasks, jobs, products, environments and systems in order to make them compatible with the needs, abilities and limitations of people*. (n.d.). Retrieved February 26, 2023, from <https://ergonomicssa.com/>
- Trends for open access to publications*. (n.d.). Research and Innovation European Commission. https://research-and-innovation.ec.europa.eu/strategy/strategy-2020-2024/our-digital-future/open-science/open-science-monitor/trends-open-access-publications_en#open-access-to-publications
- UKRI. (2022). *UKRI Open Access Block Grant Terms & Conditions*. UK Research and Innovation (UKRI). <https://www.ukri.org/wp-content/uploads/2022/07/UKRI-22072022-UKRI-Open-Access-Block-Grant-Terms-and-Conditions-March-2022.pdf>
- University of California Libraries. (2016). *Pay It Forward: Investigating a Sustainable Model of Open Access Article Processing Charges for Large North American Research Institutions* (p. 185). University of California, Davis. https://library.ucdavis.edu/wp-content/uploads/2022/07/ICIS-UC-Pay-It-Forward-Final-Report.rev_7.18.16.pdf
- Van Noorden, R. (2013). Open access: The true cost of science publishing. *Nature*, 495, 426–429. <https://doi.org/https://doi.org/10.1038/495426a>
- Watson, C. (2022). Rise of the preprint: how rapid data sharing during COVID-19 has changed science forever. *Nature Medicine*, 28(1), 2–5. <https://doi.org/10.1038/s41591-021-01654-6>
- Wellcome Trust. (2020). *Wellcome and COAF open access spend 2018/19 | Grant Funding*. Wellcome Trust. <https://wellcome.org/grant-funding/wellcome-and-coaf-open-access-spend-201819>
- West, J. D., Bergstrom, T., & Bergstrom, C. T. (2014). COST EFFECTIVENESS OF OPEN ACCESS PUBLICATIONS. *Economic Inquiry*, 52(4), 1315–1321. <https://doi.org/10.1111/ecin.12117>
- Woolston, C. (2014). Secret publishing deals exposed. *Nature*, 510(7506), 447–447. <https://doi.org/10.1038/510447f>
- Zhang, L., Wei, Y., & Sivertsen, G. (2022). Should open access lead to closed research? The trends towards paying to perform research. *Scientometrics*, 127, 7653–7679. <https://doi.org/https://doi.org/10.1007/s11192-022-04407-5>
- Zheng, Y., & Kaiser, H. M. (2012). Price Discrimination in the Subscription Market for Economics Journals. *Southern Economic Journal*, 79(2), 464–480. <https://doi.org/10.4284/0038-4038-2011.110>