

A Turning Point for Open Research?

The value of open research in the Covid-19 era and beyond



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Covid-19 has heightened the urgency for greater scientific cooperation and open dissemination of research. This article reflects on drivers and challenges associated with the open research agenda and calls for strategic and collective action to realise a more effective, equitable, and open research system.

Covid-19 and the value of open research

Research for the public good and the value of sharing publications and data as openly as possible have been brought to the fore during the Covid-19 pandemic. Such times of crisis serve as reminders of why the movement towards open science, or open research as it is also known, advocates for greater transparency, knowledge equity, and openness through practices such as open access to publications, responsible management and sharing of research data, citizen science, and alternative methods for research evaluation.¹ Instead of being locked behind paywalls, research made freely and publicly accessible contributes to an open and informed society and broadens access to and participation in the research process.

Recognising the urgency to share openly, commercial publishers were quick to lift paywalls on coronavirus research at the beginning of the pandemic, but only for a limited period of time.² Rapid sharing via preprint servers also surged, and other mechanisms were rapidly developed, such as the Open COVID Pledge and guidelines and platforms for data sharing.³

Among calls from prominent organisations was a Joint Appeal for Open Science from the Directors-General of UNESCO and WHO and the United Nations High Commissioner for Human Rights, seeking to 'reaffirm the fundamental right to enjoy the benefits of scientific progress and its applications and advocate for open, inclusive and collaborative science'.⁴ The joint appeal recognises the potential for open science to reduce inequalities and calls for collective action with a view to 'creating a global knowledge commons and closing existing gaps in science, technology and innovation'.

An international policy agenda

The urgency of recent calls to make research open by default builds on decades-long debates

about models of academic publishing,⁵ milestones in the open access movement from the 1990s onwards, and more recent developments such as the FAIR principles formalised in 2016 (to make data Findable, Accessible, Interoperable, and Reusable).

In Europe, open science is a policy priority of the European Commission, and successive framework programmes have strengthened the requirements for open access and FAIR data.⁶ In Horizon Europe (2021–2027), a range of open science practices are mandated or recommended, and open science is considered in the evaluation of proposals under ‘excellence’ and ‘quality and efficiency of implementation’. In parallel, the European Open Science Cloud (EOSC) is being developed to provide a ‘web of FAIR data and services’ by federating infrastructures across member states and research communities.⁷

Outside of Europe, an international consortium has implemented Plan S to accelerate open access to publications through funder mandates,⁸ and federal agencies such as NASA have programmes to increase the understanding and adoption of open science.⁹ A further significant development is the UNESCO Recommendation on Open Science, which aims to be a global, standard-setting instrument that defines shared values for open science and identifies concrete actions for member states.¹⁰ It emphasises specific core values of open science, including quality and integrity, collective benefit, equity and fairness, and diversity and inclusiveness.

Towards a national action plan for open research

In line with developments in Europe and beyond, Ireland has outlined its ambitions for open research in the National Framework on the Transition to an Open Research Environment.¹¹ Developed by Ireland’s National Open Research Forum (NORF),¹² the framework sets out objectives across five key areas: open access to research publications, enabling FAIR research data, infrastructures for access to and preservation of research, skills and competencies, and incentives and rewards.

“ In Europe, open science is a policy priority of the European Commission. ”

As National Open Research Coordinator, I have been working with NORF to develop a National Action Plan for open research, which will identify the required support structures to help researchers and the research system navigate the transition towards open research. Through its working groups and coordination bodies, NORF has benefitted from the substantial volunteer efforts of a broad group of stakeholders and experts to analyse the landscape of open research support structures in Ireland, consult with national and international peers, and develop recommendations for concrete actions.

Analysis of progress nationally and internationally underlines that while the opportunities and policy direction are clearer than ever before, significant challenges remain to embed open research as mainstream practice. Awareness, implementation, and uptake have been uneven to date, with disparities between disciplines, institutions, career stages, and regions.

Why is this the case? Factors include a fragmented environment of financial resources, specialist support staff, open research infrastructure, guidance, and training; a lack of clear monitoring and governance mechanisms; and research assessment and evaluation that are often misaligned with open research aims and values.¹³ On the last point, a 2019 report by the European University Association showed that research publications and attracting external research funding are ranked by researchers as the most important activities for their careers, whereas open science and open access rank as the least important overall.¹⁴

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From NORF feedback and public consultation, it is clear that there is a range of perspectives on open research, including a justified concern with how to develop inclusive and equitable routes for open access. Indeed, it is incumbent on us all to imagine and foster practices that do not replicate or deepen inequities or imbalances in the current system. Further, we should use this opportunity to build on and adapt proven examples of best practice, respond to the needs of the local environment and disciplinary communities, including those of the arts and humanities, and support the principles of bibliodiversity and multilingualism in scholarly communication within and beyond our borders.

To address these challenges, it is imperative that Ireland take a system-level approach to open research, acknowledging it as a cross-cutting, strategic national priority for the research and innovation sector. The open research agenda requires systemic change and can only be progressed through thinking and acting collectively. The broad scope of the agenda should be met by requisite long-term investment and be embedded in national plans and strategies, including the next national strategy for research and innovation.

Enacting culture change

To conclude, it is worth reflecting on the crux of the transition to open research, namely the need to foster and enact a change in research culture and behaviour. A useful framework proposed by Brian Nosek from the Center for Open Science lays out five levels of intervention: making change possible through infrastructure, making it easy through the user experience, making it normative through communities, making it rewarding through incentives, and making it required through policies.¹⁵ With this in mind, let us pause to consider our personal, institutional, and disciplinary contexts: Where are interventions needed, and what is my potential role and responsibility?

I would also call for engagement about open research on the basis of what Kathleen Fitzpatrick describes as ‘generous thinking’: ‘a mode of engagement that emphasises listening over speaking, community over individualism, collaboration over competition.’¹⁶ Taking such an approach foregrounds principles of care, consensus-building, and sensitivity to the opportunities to work together to find shared solutions to shared challenges.

Will we look back on this year and the spotlight on research communication during Covid-19 as a turning point for open research? Perhaps, but only if

we harness the momentum and will of the community to make strategic choices about a more effective, equitable, and open research system.

ENDNOTES

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7. European Open Science Cloud: <https://eosc.eu/>.
8. Plan S and cOAlition S: www.coalition-s.org/.
9. NASA's Transform to Open Science: <https://science.nasa.gov/open-science/transform-to-open-science>.
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