CORA Cork Open Research Archive
Cartlann Taighde Oscailte Chorcaí

Title	Responsible research metrics policy development and alignment: National Open Research Forum policy brief
Authors	Dalton, Michelle;Collins, Shane;Schwamm, Hardy;Smith, Sally
Publication date	2022-04-22
Original Citation	Dalton, M, Collins, S, Schwamm, H & Smith, S 2022, Responsible research metrics policy development and alignment : National Open Research Forum policy brief. Digital Repository of Ireland. https://doi.org/10.7486/DRI.JW82N294D
Type of publication	Other
Link to publisher's version	https://repository.dri.ie/objects/jw82n294d/doi/jw82n294d - 10.7486/DRI.JW82N294D
Rights	© 2022, the Authors. - https://creativecommons.org/licenses/by/4.0/
Download date	2026-10-30 17:17:35
Item downloaded from	https://hdl.handle.net/10468/19324



UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh



Responsible Research Metrics Policy Development and Alignment

National Open Research Forum Policy Brief

NORF Policy Brief Series, December 2021

Responsible Research Metrics Policy Development and Alignment

Authors: Michelle Dalton (University College Dublin), Shane Collins (Trinity College Dublin), Hardy Schwamm (NUI Galway), and Sally Smith (Dublin City University).

Cite as: Dalton, M., Collins, S., Schwamm, H., & Smith, S. (2021). *Responsible Research Metrics Policy Development and Alignment*. National Open Research Forum, Ireland. https://doi.org/10.7486/DRI.jw82n294d

Introduction

In order to mainstream Open Research, a systematic cultural shift in how research is valued and acknowledged is necessary. Heretofore, current research evaluation processes (and in particular the use of bibliometrics), have been used in a way that creates barriers to recognising and rewarding open practices and outputs. The reliance on Journal Impact Factors (JIFs) and other journal metrics as a proxy measure for research quality has cemented the dominant position of traditional "prestige" publication venues over newer, more open channels of dissemination. Furthermore, other critical parts of good academic practice that result in broader outputs that make a significant contribution and/or have impact beyond the immediate field of research (e.g. data, software and code) must be recognised and acknowledged appropriately. Many research institutions have recently developed guidelines around the use of quantitative research metrics such as citations - commonly known as statements or policies on the responsible use of research metrics (RRM) - in order to address these challenges among others, and to ensure fairer and more transparent research evaluation processes more generally.

The need to address the responsible use of research metrics (RRM) is explicitly highlighted under recommendation 28, and is also linked with recommendation 27, in the NORF *National Framework on the Transition to an Open Research Environment* (2019, p. 9):

- **R28:** *Funders and institutions will adopt open research metrics and 'responsible metrics', along with ways of rewarding the full diversity of outputs and of recording the broader social impact of research ('next generation metrics')*
- **R27:** *The academic career system will support and reward researchers who participate in a culture of sharing the results of their research.*

NORF's *National Open Research Landscape Report*[1] highlights that 'a clear commitment by RPOs [Research Performing Organisations], funding agencies and other stakeholders to key DORA principles and alignment with other international initiatives and best practice is an important first step in achieving the necessary cultural change' (2021). The barriers to achieving this change are significant however, and are compounded by the nature of research as a supra-national endeavour that involves relationships across diverse stakeholders and different disciplines. Research evaluation is also intrinsically linked with many processes (promotion, recruitment, allocation of funding, research strategy development etc.).

Given the significant hold that traditional research metrics have on academic culture, and the power and prestige that has customarily flowed from acquiring and possessing such metrics, it is clear that

[1] National Open Research Landscape Report (2021) https://doi.org/10.7486/DRI.5q485c938

the first mover disadvantage is perceived as a material one for individual researchers and institutions. This makes it imperative that the issue is tackled at a system level to ensure a level and fair playing field across the research community. Current thinking regarding 'best practice' models remains at an early stage, and the full long-term impacts and effects of new initiatives and approaches to research metrics are not yet fully understood. In this context, approaches to RRM need to be flexible and agile enough to respond to new evidence and thinking as more is learnt about the impacts and effects over time.

There has been an acceleration in RRM globally as frameworks like DORA (2012) and the Leiden Manifesto (2015) become more widely adopted, in parallel with the development of responsible research assessment (RRA) initiatives at a national level in countries such as Finland[2] and the Netherlands[3]. Ireland needs to keep pace and move in unison with other countries to help transform research culture globally. Explicit RRM requirements and policies of research funders, such as Science Foundation Ireland and Wellcome Trust, have also precipitated a meaningful change in thinking in relation to how research is evaluated. Despite these welcome changes, it is the case that a significant proportion of the research community in Ireland does not interact with these funders and therefore that such initiatives, by themselves, are insufficient if our goal is to transform critical parts of the academic system.

This policy brief focuses on the responsible use of research metrics (RRM), which is only one of the many aspects of responsible research assessment (RRA). Quantitative metrics and indicators, even when used responsibly and appropriately, should always be contextualised and never used in isolation. Quantitative metrics should only supplement or inform broader, more holistic, qualitative peer assessment of research. Any guidance and recommendations in this policy brief regarding RRM should therefore be interpreted in this context.

Method and results

Whilst full implementation of RRM remains at an early stage in an Irish context, there are examples of initiatives and policies to draw on from institutions and countries who have systematically embraced RRM and committed significant strategic resources towards local and national implementation. A dual-stranded approach was taken to inform the roadmap and recommendations contained in this brief:

A. desk research of existing policies and approaches from other institutions to identify common patterns and examples of 'good practice'
B. consultation and insight from targeted experts in the area to identify key success factors, potential challenges and lessons learned: Prof. dr. Paul Boselie, Utrecht University; and Prof. Stephen Curry Imperial College London and Chair of DORA's Steering Committee.

Desk research

A wide range of RRM policies and statements from Irish, European and international institutions were sourced through institutional websites and via the LIS Bibliometrics Bibliomagician blog.[4] These were then analysed to identify areas of commonality and points of difference. This review stage

[2] https://avointiede.fi/sites/default/files/2020-03/responsible-evalution.pdf
[3] https://vsnu.nl/recognitionandrewards/wp-content/uploads/2019/11/Position-paper-Room-for-everyone%E2%80%99s-talent.pdf
[4] https://thebibliomagician.wordpress.com/statements-of-responsible-metrics-2/

highlighted that there is no 'one size fits all' approach to RRM policies across all institutions, but rather three main pathways:

1. Some institutions have chosen to **explicitly sign DORA** (e.g. UCL[5], WIT[6], University of Edinburgh[7]), in many cases in parallel with developing detailed implementation guidance (e.g. Imperial College London[8]), or a local institutional statement that is closely aligned with, or primarily based on DORA.
2. A number of institutions have adopted or explicitly reference the ten principles of the **Leiden Manifesto** (e.g. Loughborough University[9], University of Kent[10]). The principles are generally supplemented and supported by guidance to aid implementation at local level.
3. Other institutions take a more **flexible, local approach**, broadly incorporating the general principles of some or all of the various RRM standards and frameworks, such as DORA (DORA, 2012), the Leiden Manifesto (Hicks et al., 2015) or the Metric Tide (Wilsdon, 2015), but adapted to reflect institutional strategy, values and circumstance (University of Bath[11], NUIG[12], UCD[13]).

Despite the differences in scope and emphasis, a shared agenda and vision underpins these varied approaches. Common links include a recognition that:

- Metrics should be used in parallel with qualitative expert assessment
- Criteria used in research evaluation should be explicit
- Calculation and use of metrics should be transparent and easily verified
- Research should be evaluated based on its intrinsic merits, rather than the venue it is published in
- Broader outputs and activities beyond publications should be incorporated as part of research evaluation
- Research evaluation processes should support equality, diversity and inclusion initiatives

In an Irish context, eleven organisations have formally signed DORA as of 6th October 2021[14] including MU, WIT, RIA, SFI, IRC and the HRB. A number of institutions have also published a formal statement on RRM including UCD[11], NUIG[10] and DCU[15].

Research funders have taken the lead in driving change in how metrics are used as part of the grant application and award process. As referenced in the NORF *Landscape Report* (2021), SFI has recently implemented a DORA compliant CV (DORA, 2020) adapted from the Royal Society's *Resumé for Researchers* (Royal Society, 2019). The use of journal metrics, and other bibliometric indicators such as the h-index is not permitted in applications, however researchers can include article-level citation counts alongside a more narrative-based approach. This blending of metrics alongside qualitative

[5] https://www.ucl.ac.uk/news/2015/jan/ucl-signs-san-francisco-declaration-research-assessment
[6] https://www.wit.ie/news/research/dora-signing-will-see-wit-researchers-exploring-dissemination-avenues
[7] https://www.ed.ac.uk/research-office/research-talent-and-culture/research-evaluation-and-responsible-metrics
[8] https://www.imperial.ac.uk/research-and-innovation/about-imperial-research/research-evaluation/
[9] https://www.lboro.ac.uk/research/support/publishing/responsible-use-of-metrics
[10] https://www.kent.ac.uk/guides/responsible-metrics-for-researchers
[11] https://www.bath.ac.uk/corporate-information/principles-of-research-assessment-and-management
[12] https://www.nuigalway.ie/researchcommunityportal/responsible-metrics
[13] https://www.ucd.ie/research/portal/responsibleuseofresearchmetrics
[14] https://sfdora.org/signers/?_organization_country=ireland
[15] https://www.dcu.ie/research/research-policies

evidence provides researchers with an opportunity to use metrics in a way that is appropriate to their own discipline, career and impact story.

However even internationally, translating RRM statements and policies into real cultural change remains incipient, and findings from the LIS Bibliometrics *2020 Responsible Metrics State of the Art Survey*, indicate:

> *We observe how we seem to have passed the phase of recognition and awareness of the need for a responsible use of metrics. Responses are becoming more critical with how such use is implemented and even negative views are motivated and well-argued, and not simply acknowledging ignorance. DORA adoption continues to increase but professionals indicate an ambivalent response from academic communities to these policies. Many of the malpractices surrounding the use of metrics seem to be quite entrenched in academic culture.*
>
> (Robinson-Garcia, 2021)

This emphasises the need for a long-term RRM strategy and roadmap, that is accompanied by sufficient training, outreach and other supports, to ensure practices become fully embedded in both institutional and national thinking and culture.

Expert views and lessons learned

Utrecht University has taken significant steps to re-envision recognition and rewards, based on the TRIPLE model, and aligned with broader national developments such as VSNU's position paper, *Room for Everyone's Talent* (2020). The experience at Utrecht found that structure typically follows culture, rather than the other way around. The cultural change needed to fully transition to RRM should not be underestimated and requires concrete and credible steps (Paul Boselie, personal communication, 24 June 2021).

Utrecht University has found that taking a joint approach by putting RRM on the national agenda, and sharing expertise and learnings across institutions, still allows for flexibility to accommodate different priorities and directions at local level. In parallel with national dialogue and joint principles, there is still explicit room for contextualisation at university and discipline level as well as different strategic choices. The experience of Utrecht also identifies the importance of a hybrid implementation strategy including both top-down and bottom-up initiatives (Paul Boselie, personal communication, 24 June 2021).

Beyond national approaches, the SCOPE framework[16] (INORMS Research Evaluation Working Group, 2019) for research evaluation is a five-stage model for evaluating responsibly and has been successfully developed and implemented at both national and institutional level (e.g. Denmark, Glasgow[17]). Tools such as this, can be used to help institutions develop their own approaches to RRM aligned with local needs and strategy, within a broad framework of good practice.

[16] https://inorms.net/scope-framework-for-research-evaluation/

[17] https://inorms.net/wp-content/uploads/2021/06/danish-universities-use-of-scope-in-interviews-with-danish-he-leaders.pdf;https://inorms.net/wp-content/uploads/2021/05/inorms-scope-workshop-case-study-university-of-glasgow-final.pdf

Conclusion

Mainstreaming Open Research requires recognising and rewarding research based on its intrinsic quality and the many broader forms of activity and impact beyond publications. A clear commitment to the responsible use of metrics is needed across the global research community to help achieve real cultural change and break away from the historic focus on evaluating research based on prestige publication venues. RPOs can reduce the first mover disadvantage on individual academics by working closely together, sharing learning experiences and ensuring meaningful opportunities to engage in the development and evaluation of RRM policies. RPOs must also consider how certain types of metrics are celebrated at an institutional level (e.g. University rankings) and the impact this disconnect in messaging has on advancing RRM more widely.

Some RPOs in Ireland have already engaged with the RRM agenda, with a few having developed and publicly asserted their intention to use research metrics responsibly. Given the significant range of possible approaches to applying the principles supported within RRM statements, however, it is unclear at this early stage to what degree - in practice - these statements will modify the prevailing research culture. It is possible that, if the national ecosystem does not begin to actively to encourage and support the responsible use of metrics, those who have adopted these statements will gradually feel that the 'weakest' interpretation and implementation of the principles is the most rational and beneficial course of action and this would represent a missed opportunity for the Irish research system.

Recommendations

Short-term (policy development focus)

- A clear statement at the national level by the Department of Further and Higher Education, Research, Innovation and Science or the Higher Education Authority that articulates the need for RRM to be adopted by all relevant stakeholders as an essential step to achieving cultural change in research evaluation. This is fundamental to initiate and sustain real change and buy-in, and to lend necessary weight and credibility to local policies and implementation. This national statement should be devised in a consultative way engaging with researchers from different disciplines and career stages, academic leaders, and representative associations (e.g. IUA, THEA). Mechanisms to monitor progress and compliance at a general level should also be put in place.
- Create an institution-wide high-level working group in each RPO to review existing practices and make recommendations about updating and aligning all relevant policies and processes with RRM. Membership to include academics and relevant practitioners from a variety of disciplines, career stages and viewpoints, as well as relevant process owners e.g. HR, Library etc to engage in the development of the RRM policy.
- An explicit commitment to RRM by all RPOs in a way that allows for a flexibility of approaches to reflect different institutional cultures, priorities and strategies. This could be endorsing (fully or in part) an existing framework or declaration such as DORA or the Leiden Manifesto etc., or the development of a local statement broadly aligned with the general principles of RRM.
- Link RRM developments to wider initiatives around Open Science in an integrated way e.g. Open Access, Open Science skills, research integrity and responsible research etc.

- RFOs to continue incorporating RRM in grant application and evaluation policies and processes with regular reviews of its impact and review team compliance.

Medium-term (implementation focus)

- Ongoing implementation and the embedding of RRM into all relevant processes and policies e.g. recruitment and promotion, quality reviews, strategic planning, career development frameworks etc. A hybrid implementation strategy is recommended involving both top-down and bottom-up initiatives e.g. strong endorsement and reinforcement at institutional leadership level, in parallel with advocacy and training initiatives.
- Further development and extension of pilots to increase understanding of what constitutes best practice, and showcasing case studies of early examples and success stories.
- Ongoing evaluation of the implementation of RRM policies through feedback and outreach initiatives with all staff (including support staff), early career researchers, University and public sector leadership, faculty etc. Facilitate an annual workshop that addresses RRM.
- Analysis of how RRM can interface with the broader area of RRA more generally: in-depth consideration of research evaluation and assessment approaches and rubrics is a more challenging and complex issue as flagged in the NORF *Landscape Report*.

Long-term (Impact and evaluation focus)

- Whilst feedback should be reviewed at an early and ongoing basis, more rigorous and systematic evaluation of the long-term impact of emerging evaluation models is required (e.g. what is the impact of RRM policies on career development, diversity of grantees, diversity of outputs etc.?), and to explore the broader impact on research culture through qualitative studies. Consider collecting feedback on RRM periodically through a standalone mechanism, or as part of broader research culture or EDI feedback exercises.

Stakeholders, resourcing and impact

Stakeholders

- RPOs are the key actor in developing and implementing policies at an institutional level as they employ the vast majority of researchers in Ireland.
- RFOs have initiated and driven significant change in this area to date, and remain important stakeholders to ensure evaluation processes and incentives are congruent at a system level and internationally.
- Academic leadership and researchers must be supported to develop the skills and understanding to use and interpret research metrics in a responsible and appropriate way to demonstrate the impact of their research, and to evaluate the impact of others' research.
- Libraries and institutional research offices need to be given sufficient resources to advise on and support "best practice" through communications, training and other supports.
- RPO Leadership and HR have a key role to play in ensuring alignment of recruitment and promotion policies and processes.
- Government and national agencies such as the Department of Further and Higher Education, Research, Innovation and Science (DFHERIS) and the Higher Education Authority (HEA) have a fundamental role in initiating system-level change, and ensuring all stakeholders move forward in broad alignment.

Resourcing

- An oversight and/or coordination function at a national level (e.g. through DFHERIS or the HEA) to ensure implementation of the necessary policy change at a system-level.
- Funding to support education and training in RRM. This could include providing expert support resources in RPOs and the development of online training modules at a national level as part of broader Open Research skills development programmes. It is likely this will require initial seed funding, as well as ongoing funding to maintain and keep up to date.
- Administrative resources in RPOs will be required to review and update processes, policies and communications to ensure alignment with RRM.
- A training and development time commitment for those undertaking peer review and research assessment activities to ensure review processes incorporate guidelines and policies in practice.
- An increased focus on qualitative evaluation processes may result in an additional workload on reviewers which should be acknowledged and recognised where relevant.

Anticipated impact

- Increased transparency and consistency in research evaluation processes
- Reduced emphasis on the use of quantitative metrics and rankings in isolation
- Increased utilisation of more open and diverse publishing channels and formats (such as preprints, post-publication peer review platforms etc.)
- Sharing of broader research outputs and increased engagement with open practices as a result of a more equitable and holistic approach to research evaluation
- A fairer playing field for researchers in different disciplines and at different career stages, helping to support EDI initiatives and objectives.

References

Bibliomagician blog (2019, December 20). *Statements of Responsible Metrics*. https://thebibliomagician.wordpress.com/statements-of-responsible-metrics-2/

DORA (2012). *San Francisco Declaration on Research Assessment.* https://sfdora.org/read/

DORA (2020, November 19). *Science Foundation Ireland takes an iterative approach to develop a narrative CV*. https://sfdora.org/2020/11/19/dora-funder-discussion-science-foundation-ireland-takes-an-iterative-approach-to-develop-a-narrative-cv/

Hicks, D., Wouters, P., Waltman, L., de Rijcke, S., & Rafols, I. (2015). Bibliometrics: The Leiden Manifesto for research metrics. *Nature*, *520*(7548), 429–431. https://doi.org/10.1038/520429a

INORMS Research Evaluation Working Group (2019). *SCOPE Framework for Research Evaluation*. INORMS. https://inorms.net/scope-framework-for-research-evaluation

Robinson-Garcia, N. (2021, April 12). Results from the 2020 Responsible Metrics State of the Art Survey. *The Bibliomagician*. https://thebibliomagician.wordpress.com/2021/04/12/results-from-the-2020-responsible-metrics-state-of-the-art-survey/

NORF (2019). *National Framework on the Transition to an Open Research Environment.* Digital Repository of Ireland. https://doi.org/10.7486/DRI.0287dj04d

NORF (2021). *National Open Research Landscape Report.* https://doi.org/10.7486/DRI.5q485c938

Royal Society (2019). *Résumé for Researchers.* https://royalsociety.org/topics-policy/projects/research-culture/tools-for-support/resume-for-researchers/

Utrecht University (n.d.) *Recognition and Rewards Vision*. https://www.uu.nl/sites/default/files/UU-Recognition-and-Rewards-Vision.pdf

VSNU (2019). *Room for Everyone's Talent*. Retrieved August 5, 2021, from https://vsnu.nl/recognitionandrewards/wp-content/uploads/2019/11/Position-paper-Room-for-everyone%E2%80%99s-talent.pdf

Wilsdon, J., et al. (2015). The Metric Tide: Report of the Independent Review of the Role of Metrics in Research Assessment and Management. DOI: 10.13140/RG.2.1.4929.1363

Working group for the responsible evaluation of a researcher. (2020). *Good practice in researcher evaluation. Recommendation for the responsible evaluation of a researcher in Finland*. The Committee for Public Information (TJNK) and Federation of Finnish Learned Societies (TSV). https://doi.org/10.23847/isbn.9789525995282