
This briefing note summarises the key findings and recommendations of the recent HEFCE report into the role of metrics in research assessment and management\(^1\). It is a wide-ranging report set in the context of growing pressures on funders to evaluate public spending on research and to set strategic priorities, while HEIs must manage and develop their research strategies to effectively compete for limited funding, staff and students. It is a very well researched and well evidenced review.

The report begins by exploring in depth the pros and cons of different types of metrics; their relevance and accuracy in different disciplines; and compares those with the process of peer review. It concludes that the use of metrics remains contested and open to misunderstandings. Academic quality is highly context-specific and one size is unlikely to fit all, with different metrics more suitable to different disciplines. It is sensible to think in terms of research qualities, rather than striving for a single metric. Although metrics have clear potential, too much emphasis is currently placed on narrow, poorly-designed indicators such as journal impact factors (JI\(^F\)). Peer review, despite its flaws and limitations, is the least worst form of assessing quality and should remain the primary basis for assessing outputs, grant proposals and individuals. It continues to command widespread support across disciplines, although carefully selected and applied metrics can be a useful complement. Article-level citation metrics might be useful indicators of academic impact, provided they are interpreted in the light of disciplinary norms and with due regard to their limitations. Journal-level metrics should not be used.

The use of metrics within HEIs is growing, with a resultant affect on research culture. Inappropriate use of metrics encourages negative behaviour, with JIFs and citation counts being two prominent examples. There is legitimate concern that not only can these be gamed, but that focus on achieving metrics distracts from the primary academic purpose. For example, achieving high metrics can become the goal over producing quality research findings, or some may focus on less-risky research topics. Managers should champion the use of responsible metrics, considering and pre-empting negative consequences wherever possible, particularly in terms of equality and diversity. HEIs should develop a clear statement of principles on their approach to research management and assessment. They should carefully select metrics that are appropriate and meaningful to their institutional aims and context, exploring indicators for aspects of research that they wish to assess rather than using existing indicators because they are readily available. They should clearly communicate the rationale for the chosen metrics and how they will be used, particularly for academic appointment and promotion decisions. All HEIs should consider signing up to DORA\(^2\).

Funders should develop their own context-specific principles for the use of metrics and ensure that these are well communicated, easy to locate and understand. They should pursue approaches to data collection that are transparent, accessible, and allow for greater interoperability across a diversity of platforms. Data providers and analysts should strive for greater transparency in the construction and use of metrics, particularly for university rankings and league tables which are driving adverse behaviour. Publishers should reduce emphasis on JIFs, and make available a range of article-level metrics to encourage a shift toward assessment based on the academic quality of each individual article rather than the reputation of the journal.

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\(^1\) [http://www.hefce.ac.uk/pubs/rereports/Year/2015/metrictide/Title,104463,en.html](http://www.hefce.ac.uk/pubs/rereports/Year/2015/metrictide/Title,104463,en.html)

it is published in. They should encourage responsible authorship practices and publish more detailed information about the specific contributions of each author.

Metrics can only meet their potential if they are underpinned by an open and interoperable data infrastructure. Without the right identifiers, standards and semantics, metrics cannot be robust or properly understood. The systems used by HEIs, funders and publishers need to interoperate better, and definitions of research-related concepts need to be harmonised. ORCID\(^3\) is seen as the key to improving robustness and reducing administrative burden and should be the sector’s preferred system of unique identifiers. It should be mandatory for grant applications, manuscript submissions, and in the next REF. Similarly, unique identifiers are required for HEIs, publishers, funders etc. with ISNI\(^4\) recommended as the preferred option. The use of DOIs should be extended to cover all research outputs.

The assessment of outputs in the next REF should remain a process of peer review informed by suitable metrics. No set of numbers, however broad, can capture the multifaceted and nuanced judgements on quality that peer review provides. Analysis of the REF2014 results at output level show that individual metrics give significantly different outcomes. It is not considered feasible to use metrics in place of narrative impact case studies, while there is a real danger that HEIs would focus impact efforts on those activities for which metrics are ready available, to the detriment of society. However, there should be clear guidelines on the collection of supporting data, with suggested data to evidence specific types of impact and standards for its collection. For the environment component, there is scope to enhance the use of metrics, provided that they are used with sufficient context to enable their interpretation. At a minimum this should include information on the total size of the UOA.

Finally, the report recommends the creation of a Forum for Responsible Metrics to carry forward the agenda it sets out, and to coordinate UK responses to the many initiatives in this area across Europe and internationally. A blog (www.ResponsibleMetrics.org) has been established as a forum for ongoing discussion of the issues raised by this report.

**Responsible metrics**

The report proposes the notion of responsible metrics as a way of framing appropriate uses of metrics in the governance, management and assessment of research.

- **Robustness**: basing metrics on the best possible data in terms of accuracy and scope;
- **Humility**: recognising that quantitative evaluation should support, but not supplant, qualitative expert assessment;
- **Transparency**: keeping data collection and analytical processes open and transparent, so that those being evaluated can test and verify the results;
- **Diversity**: accounting for variation by field, and using a range of indicators to reflect and support a plurality of research and researcher career paths across the system;
- **Reflexivity**: recognising and anticipating the systemic and potential effects of indicators, and updating them in response.

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\(^3\) [http://orcid.org/](http://orcid.org/)

\(^4\) [http://www.isni.org/](http://www.isni.org/)