



The Victoria Building at the University of Liverpool, UK.

ROW ERUPTS OVER USE OF RESEARCH METRICS IN JOB-CUT DECISIONS

Critics say a university put jobs at risk using unreliable measures related to funding and citations.

By Holly Else

A university in the United Kingdom is facing criticism over the responsible use of research metrics, after it used information about scientists' research income and publications to designate dozens of jobs as 'at risk'.

Critics say that using metrics in such a decision is inappropriate because the measurements tend to focus on a small part of an academic's job. They add that the institution at the centre of the row – the University of Liverpool – used a metric based on citations that is designed to evaluate large groups of researchers, rather than individuals.

The university has defended how it used metrics, and says these weren't the only factors it considered when making the decision.

The debate highlights broader unease about the use of metrics in science as more data are collected to assess the quality of researchers' work. Some say these quantitative measures of performance concentrate too much on publication records while failing to acknowledge other types of work, including teaching, committee work and peer review.

The University of Liverpool plans to cut dozens of jobs across its faculty of health and

life sciences as part of a reorganization. During January and February, the university notified 47 researchers that their jobs were at risk.

In a statement to *Nature's* news team, the university says that a five-year average of research income was used to identify researchers whose jobs could be at risk, and that "a range of factors that might remove colleagues from the pool of those potentially at risk were then considered, including the contribution of positive citation metrics where appropriate". The university declined to specify what these metrics were.

The statement says that other indicators were considered, including "impact case study authorship, leadership contribution and membership of external bodies", and that potentially mitigating circumstances – including impacts of the COVID-19 pandemic, parental leave and reduced hours because of caring responsibilities – were taken into account.

However, an e-mail seen by *Nature* that was sent to University of Liverpool staff by the local branch of the University and College Union, which represents academics across the United Kingdom, says that managers identified employees who are at risk of redundancy using two key metrics and did not take other aspects of their day-to-day work into account.

The e-mail, which quotes a university

document, states that managers established a "quality baseline" by looking at the performance of staff "against key metrics, focussing in particular on research income and quality of individual outputs". The two metrics used were a five-year average of research income compared with that of researchers at similar universities, and a score called field-weighted citation impact, which measures how often research papers are cited relative to the rest of the papers in their field.

Elizabeth Gadd, a research-policy manager at Loughborough University, UK, says that the field-weighted citation-impact metric is not suitable for assessing the work of individual researchers. "It is only stable for large publication sets, for example 10,000 documents or more," she explains.

An open letter to university management, which has been signed by more than 400 researchers at Liverpool and elsewhere, says that the metrics used were "particularly problematic" and that their use has endangered the jobs of the "most collegial faculty members, running technology facilities and serving on the committees that keep our departments and institutes running smoothly".

"Assessing staff solely on the basis of quantitative metrics is never acceptable, no matter what type of metric is being used," it adds.

Confidential discussions

The outcry has prompted organizations that advocate the responsible use of metrics to contact the institution.

These include organizers of the Declaration on Research Assessment (DORA), of which the University of Liverpool is a signatory. The declaration says that institutions should not use metrics "to assess an individual scientist's contributions, or in hiring, promotion, or funding decisions".

A spokesperson for DORA says the organization has had discussions with the university that remain confidential to allow "a free and honest exchange of information and views".

Some of the authors of the Leiden Manifesto, another statement on the responsible use of metrics, wrote to the university's vice-chancellor, Janet Beer, to raise concerns. "We regard the application of quantitative metrics in a mass redundancy as a major threat for recent initiatives on responsible research metrics," wrote bibliometricians Ismael Rafols, Ludo Waltman and Sarah de Rijcke, at Leiden University in the Netherlands.

The letter, dated 21 February, outlines how metrics can be biased towards certain research topics or ages, and says this "may contravene the basic principle of equal treatment in employment". This is the first time to their knowledge that metrics have been used to single out researchers for job cuts at a university in Europe, the authors add. Rafols says the group has not yet received a response.