Working Toward Greater Transparency to Improve the Management of Research Misconduct

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While working toward the unified goal of research integrity, institutional research integrity officers (RIOs) and journal editors and staff largely function independently to investigate cases of research misconduct, including data falsification, fabrication, or plagiarism. This approach can result in protracted phases of inquiry and possible propagation of negative outcomes associated with the contamination of the scientific literature with false data. In the statement by Garfinkel et al\(^1\) a working group, led by RIOs from The Ohio State University, Northwestern University, and George Washington University, along with journal editors and staff with subject matter expertise, met virtually to review the management of research misconduct.\(^1\) Collectively, this group thoughtfully addressed the current state of research misconduct management and put forward recommendations directed at improving the communication between institutions and journals in an effort to expedite the correction of the scientific literature. The resulting guidance included expanding the understanding of federal need-to-know criteria, disassociation of the adjudication of research misconduct from the identification of those responsible for the misconduct, and when considering the timing of author notification, moving to an earlier and inclusive notification of universities by the journals.\(^2\)

Causes of university-based research misconduct are multifactorial, and contributory factors are simultaneously tangible and elusive. Researchers operate under immense pressure to perform and to produce in several formats, including funded grants, high-impact publications, and educational responsibilities. In the research environment, intense demands of academic promotion, desire for personal gain (eg, financial, public visibility, awards), and mental illness have all been associated with misconduct.\(^3\) Since the pandemic, researchers have been more isolated, making the tasks of modeling and oversight of optimal research practices more challenging. The new experience of virtual and hybrid mentoring is also a cause for concern. Trainees may have less supervision when learning the fundamental techniques required to perform novel science and less guidance when developing the behaviors associated with research integrity, including consistent documentation of reproducible data, robust statistical analysis, and appropriately referenced publications.\(^3\) University-sponsored career development and mentorship programs designed to foster the support and preemptive identification of faculty and trainees who may be at risk of engaging in misconduct may help to offset research misconduct. Faculty and trainees who are at critical junctures in career evolution must work in an academic culture that champions the honest reporting of scientific data.\(^4\) Additionally, principal investigators could be coached to develop a mentoring dialogue, modeling a culture motivated by hypothesis-based thinking, scientific exploration, and transparency. Greater emphasis should be placed on the importance of the research process, the meaningfulness of scientific exploration, and the integrity that underlies this endeavor, not an expected or desired result. Conscientious efforts to strengthen the culture of scientific exploration should reduce the pressure to produce desired results. Negative results that further scientific understanding could be prioritized and lauded through publication and promotion. A more supportive, balanced, and transparent approach to the communication of scientific results may result in a reprieve from the pressure for performance and the off target harmful impact that can foster research misconduct.

The recommendations put forward by the working group are forward-thinking and laudable, although careful consideration will be needed to safely dissociate the adjudication of research misconduct and the identification of those responsible for the misconduct. The current due process...
that guides the inquiry and investigation of research misconduct was designed to be fair, be discrete, and protect the integrity of innocent researchers. Nevertheless, the cadence of the misconduct process could be improved. As discussed by Garfinkel et al, better outcomes may be achieved by expanding the limits of agreed-on confidential communication between journals and universities earlier in the investigation process and by creating standardized online access points for reporting.1

At the same time, any new process must also ensure that boundaries are maintained to confirm that a journal notification does not disrupt a university sequestration and that a correction to the published literature does not cast inappropriate aspersion on the associated authors. Journals amending or retracting corrupt data will be obligated to identify discrete approaches to changes in the published data to maintain individual authors’ reputation until the university investigation process is completed and author attribution has been delineated. Avoidance of unintended reputational harm will be critical to the adoption of an uncoupled notification process. Specific and consistent attestation of author responsibility for data could also be part of this process. Primary and senior authors could be obligated to attest to the accuracy of all the data and the totality of a manuscript at the time of submission. This upfront connection between the primary study authors and the commitment to research integrity could help to expedite attribution of responsibility in the setting of misconduct. Thus, while a plan to uncouple the cadence of data correction from author attribution should help to more quickly improve the accuracy of the scientific literature, the precise plan for implementation of changes in the misconduct investigation process must be uniformly vetted and accepted by both universities and journals. This mutual understanding will be critical to ensure the preservation of the integrity of the misconduct process and all parties involved with the allegations.

The impact of scientific data rests on several factors, including methodological accuracy, validity, and reproducibility. The meaningfulness of scientific innovation and the potential for the ongoing evolution of conceptual progress is dependent on the veracity of data that comprise the scientific literature. Generations of scientific discovery are built on a foundation of accurate and factual experimental results. Research misconduct is a fault line in this critical foundation that can undermine the promise of further scientific advancement. Notably, most researchers stand firmly on the tenets of scientific integrity, while few members of the scientific community commit acts of research misconduct, leading to lengthy investigation and complex data remediation.5 Individuals and organizations entrusted with the maintenance of research integrity must work in a collaborative process to ensure that the precious resource that is scientific knowledge is protected to support and sustain future generations of scientific discovery and progress.

ARTICLE INFORMATION
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REFERENCES
