

## **Rigor, Reproducibility, and Transparency in Shared Research Resources: Follow-Up Survey and Recommendations for Improvements**

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**Objectives and Methods:** Rigor, reproducibility, and transparency are essential components of all scientific pursuits. Shared Research Resources, also known as core facilities, are on the frontlines of ensuring robust rigor, reproducibility, and transparency practices. The Association of Biomolecular Resource Facilities Committee on Core Rigor and Reproducibility conducted a follow-up survey four years after the initial 2017 survey to determine if new rigor, reproducibility, and transparency initiatives (including guidance from the National Institutes of Health, new journal requirements on transparency and data provenance, and educational tools from professional organizations) have impacted implementation of systems to ensure quality or behaviors of core users.

**Results:** Survey response rates were lower compared to 2017 but the responses were similar in many areas, including procedures currently in place or procedures that should be implemented by cores to ensure rigor, reproducibility, and transparency (RR&T). Respondents indicated a strong correlation between core facilities and institutions that emphasize RR&T and core customers using core expertise in grant applications and publications. The survey also assessed the impact of the COVID-19 pandemic on core operations and RR&T. These questions revealed that many of the strategies aimed at increasing efficiencies during the pandemic are also best practices related to RR&T, including development of standard operating procedures, supply chain management, and cross training. The full results have been published in the Journal of Biomolecular Techniques (<https://doi.org/10.7171/3fc1f5fe.fa789303>).

**Conclusions:** The survey showed consistent strong awareness of the importance of RR&T by core directors in surveys from 2017 and 2021, but a lack of improvement over this time period. The greatest predictor of core users initiating RR&T concerns was an institutional commitment to RR&T coupled with a highly visible statement concerning RR&T by the core. The authors recommend adoption of RR&T statements by all core laboratories that will be used to guide operations, train core customers, ensure compliance, support better experimental approaches, enabling cores to become “rigor champions”.