

Enhancing Reproducibility through Rigor and Transparency

Definition

Scientific rigor is the strict application of the scientific method to ensure unbiased and well-controlled experimental design, methodology, analysis, interpretation and reporting of results.

Goals

The NIH strives to exemplify and promote the highest level of scientific integrity, public accountability, and social responsibility in the conduct of science. Grant applications instructions and the criteria by which reviewers are asked to evaluate the scientific merit of the application are intended to:

- ensure that NIH is funding the best and most rigorous science,
- highlight the need for applicants to describe details that may have been previously overlooked,
- highlight the need for reviewers to consider such details in their reviews through updated review language, and
- minimize additional burden.

Guidance: Rigor and Reproducibility in Grant Applications

The NIH is committed to promoting rigorous and transparent research in all areas of science supported by a variety of grant programs. Grant application instructions and the criteria by which reviewers are asked to evaluate the scientific merit of the application include components that address reproducibility, rigor, and transparency. Learn how to address rigor and reproducibility in your grant application and discover what reviewers are looking for as they evaluate the application for scientific merit.

Overview of Guidelines for Rigor in Your Application

Research Grants and Mentored Career Development Awards

Beginning with applications due on January 25, 2019 the application instructions and review criteria will be clarified to replace the term “scientific premise” with the term "rigor of the prior research". Applicants will also be instructed to describe plans to address any weaknesses in the rigor of prior research within the Research Strategy. For additional details, see [NOT-OD-18-228](#) and [NOT-OD-18-229](#).

Institutional Training Grants, Institutional Career Development, Individual Career Development, and Individual Fellowships

The NIH plans to require formal instruction in rigorous experimental design and transparency to enhance reproducibility for institutional training, institutional career development, individual career development, and individual fellowship applications with due dates on or after May 25, 2020. In addition, the requirements for rigor and transparency already in place for other research grants will be extended to fellowship research grants. See [NOT-OD-20-033](#)