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COGR Survey

In the Spring of 2018 COGR developed a survey to identify what resources its member institutions provide to foster rigor, reproducibility and research quality.

- Sixty-four of COGR's 187 member institutions (34%) completed the survey.

Resources Offered: NIH Requirements

We asked whether institutions offered resources to assist researchers in meeting NIH's Rigor and Reproducibility Proposal Requirements:

- 58% – Examples include grant writing resources that address rigor and reproducibility; assistance with study design evaluation; cell line authentication;; assistance with methods descriptions and validation of key reagents; consultations on biostatistics; experimental design, and administrative and data management; and online resources.

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Resources Offered to Promote Research Quality

Resource	Percent Provided	Resource	Percent Provided
Computing	80%	Protocol Templates	59%
		Grant Proposal Development Support	95%
Biostatistical/statistical	78%	Lab Management Support	31%
Data Analysis	56%	Central Web Repository of Resources	36%
Data Management	72%	Library Resources	81%
Mentoring	61%	Software and Data Carpentry Workshops	41%
Training in Rigor and Reproducibility	45%	Other	16%

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Resources cont.

- Biostatistical or other statistical support group or unit on their campus – 80%

- Maintain a repository or repositories where researchers can deposit data - 76%

- Explicit incentives for reproducibility and transparency efforts – 11% (at best)

- Provide substantive reviews of research proposals for quality of design prior to submission for funding - 81%

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Resources cont.

Training, resources or other support on issues that may affect the rigor and reproducibility of research:

- The impact of biological variables such as sex, age, weight, and health status of animals in studies and publications; 54%
- Authentication of key resources such as cell culture lines, antibodies, and genotype of transgenic animals; 51%
- Identification and tagging of key resources in manuscripts and grants 37%

Resources cont.

- Graduate student training in the fundamental principles of rigorous research - 59%

- To raise awareness of rigorous approaches to research such as randomization of subjects, blinding of data analysis, sample size estimation, and replication of experiments – 61%

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How easy is it to find the available resources?

- 58% of respondents reported that they received 0-24% of their responses from the institution's website
- 63% indicated that they contacted 2-5 offices to complete the survey
- Some institutions have centralized repositories of resources to enhance research quality, rigor and reproducibility
  - Highlighted in report

Recommendations - USC

Rigor and Transparency in the Conduct of Research at the University of Southern CA–Recommendations from the University Research Committee:

- **Promoting Transparency** - make data storage and sharing sites available; encourage researchers to pre-register all research projects
- **Encouraging Good Institutional Practices** – offer training programs and courses in rigorous experimental design, research standards, statistics, meta-analyses, and objective evaluation of data; pursue a method for systematic data collection such as electronic laboratory notebooks.
- **Consideration in Merit Review and Promotion** – consider strategies that further encourage robustness of research design, data and code sharing, and high-quality mentoring in the evaluation of merit and promotion;

Recommendations - USC

Rigor and Transparency in the Conduct of Research at the University of Southern CA–Recommendations from the University Research Committee:

- **Participating in Reproducibility Work** - encourage researchers to both participate in reproducibility efforts and to report and share efforts to reproduce research by providing incentives, including in merit evaluations and consideration for promotion; facilitate authentication efforts;
- **Increasing Visibility of the Topic of Reproducibility** – incorporate reproducibility in research into the broader curriculum; encourage a focus on transparency and rigor in research practices;
- **Authenticating Key Resources** - encourage and support efforts to authenticate key research resources; building infrastructure for authenticating cell lines and other biological and chemical resources upon arrival at the university;

Conclusions

- Considerable variance between and within institutions in terms of the resources offered.
- Resources may not be tracked or available centrally
- Researchers may not be aware of the institutional resources available to them.
- Recommendations and/or next steps are currently under consideration.

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