



Survey of research culture in Australian NHMRC-funded institutions: Key messages

Institutional research culture is critical to the conduct of high quality research. Many institutions already have processes and initiatives in place to support the conduct of high quality research.

As part of [NHMRC's Research Quality Strategy](#), a survey was conducted to gain insight into the research culture in Australian NHMRC-funded institutions. Views were sought from researchers (senior, mid-career and junior), research students (masters and PhD students), institutional representatives and ethics committee members.

The survey was conducted by [ORIMA Research](#) on behalf of NHMRC in October-November 2019.

The results were mixed about whether the research culture in NHMRC-funded institutions is supportive of responsible research practices. Participants reported on both positive and negative aspects of their research environment, barriers and enablers to excellence in research quality, behaviours that affect research quality, and opportunities for change and innovation.

Attitudes are largely supportive of discussing and improving research practices.

- 93% of participants believed that reproducibility was important to research.
- 81% of researchers and research students felt that their department or group prioritises honesty and integrity when researchers propose, perform and report research.
- 84% of participants felt comfortable about having discussions on responsible research practices. Given the importance of responsible research practices, the frequency of discussions about such practices appeared low and often coincided with key stages of a research project.
- 55% of researchers and research students agreed that researchers in their immediate research environment are committed to open access publishing.

Most institutions and research groups have or are developing policies and procedures to support high quality research.

- 90% of researchers and research students agreed that their department/research group follow established institutional policies for their research practices.
- 85% of participants reported that they have easy access to their institution's policies / guidelines about responsible research practices, and 82% reported they had easy access to an individual(s) with appropriate expertise for advice about responsible research practices.
- 97% of researchers and research students reported that they / their research group had established procedures in place to ensure reproducibility in their work, and 61% felt that the quality of their research had improved as a result of the introduction of such procedures.

The institutional environment is important for encouraging high-quality research.

- 76% of participants agreed that initiatives that promote integrity in research such as codes of conduct had the greatest positive effect on the production of high quality research.
- Other factors identified by participants as encouraging high-quality research included ethical review processes (73%) and data sharing policies (73%).
- 87% of participants agreed that appropriate education and training of researchers about responsible research practices will improve research quality.
- 86% of researchers and research students agreed that education and training about responsible research practices was beneficial for their role. However, 53% agreed that the education and training opportunities at their institution are effective.
- 55% of junior researchers agreed that they are effectively mentored about responsible research practices. This perception changed with seniority with 70% of mid-career researchers and 82% of senior researchers agreeing that 'junior researchers are effectively mentored about responsible research practices'.

Researchers face a range of pressures that can have negative effects on research quality.

- Factors identified by participants as having a negative effect on research quality included competition (70%), funding pressures (52%), publishing pressures (44%) and how researchers are assessed for promotion (44%).
- 54% of participants were aware of researchers feeling tempted or under pressure to compromise on research quality.
- 27% of researchers and research students personally felt tempted or under pressure to compromise on research quality.
- 23% of junior researchers and 26% of mid-careers researcher felt pressure from a mentor, supervisor or research colleague to compromise on research quality.
- Reported behaviours, either witnessed or personally undertaken, that adversely affect research quality were most common in the areas of research design, data collection, and reporting and publication.

Ethics committees receive information relevant to research quality.

- Information relevant to research quality is routinely requested and provided in applications to ethics committees (Human Research Ethics Committees and Animal Ethics Committees).
- The most common information routinely provided in applications was how the number of participants / animals per experimental cohort was determined (66% HRECs, 85% AECs).

Researchers, institutions and funders all have an important role to play in improving research quality.

- Researchers themselves were perceived to have the greatest potential to enact change to improve research quality.
- Institutions could make an impact by shifting industry norms within the research community, by promoting an environment where high-quality research is considered the required norm.

- Some key opportunities to influence research culture or responsible research practices included:
 - effective training and mentorship (especially of junior researchers) about responsible research practice
 - addressing factors that adversely affect research quality, such as poor research practices and pressure to publish for career advancement
 - promoting positive initiatives and processes rather than competition where possible
 - encouraging open access publishing
 - considering the impact of funding pressures and funding expectations on researchers, and
 - encouraging more rigorous reproducibility procedures.

Next steps

The results support early initiatives being undertaken by NHMRC as part of the Strategy, including developing guidance about good institutional practice and effective education and training. The survey results will be used to inform these and other ongoing activities as part of the Strategy. In addition, the survey results will be used as a baseline for monitoring the effectiveness of any approaches that are implemented.

The survey questionnaire has already promoted discussions amongst research groups about responsible research practices. NHMRC is providing the survey questionnaire and results to the research community so that they can be used by institutions and researchers to inform their current initiatives for supporting the conduct of high-quality research.

Further information

Information about the survey and a copy of the survey report are available from [NHMRC's website](#).

The survey is registered on the Open Science Framework (DOI: [10.17605/OSF.IO/CJ3A9](https://doi.org/10.17605/OSF.IO/CJ3A9))

The survey data will be made available for reuse in research projects. NHMRC is continuing to develop processes for this data sharing.

Enquiries

For further information, please contact quality@nhmrc.gov.au.