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# Peer Review Consultation – Summary Report

National Health and Medical Research Council

# This document outlines key themes from NHMRC's peer review consultation process

## Purpose and context

### **NHMRC is introducing a new grant program**

In May 2017, the Federal Minister for Health announced a reformed architecture for the National Health and Medical Research Council's (NHMRC) investment in health and medical research. The new structure for the NHMRC grant program was based upon extensive consultation and expert advice, and will see the introduction of three new schemes (Investigator, Synergy and Ideas) and the retention of the (revised) Strategic and Leveraging schemes.

### **To support this grant structure NHMRC is reviewing their peer review processes**

An integral element of awarding NHMRC grants to date has been the peer review of the applications. In designing peer review systems for its new grant program, NHMRC reviewed the approach and process to peer review in light of the changes to the grant program structure. This will help to ensure that the new peer review processes support the new grant program and are appropriate going forward.

### **NHMRC undertook an extensive consultation process to inform design of the new peer review processes**

In developing the peer review models to support the new grants programs, NHMRC has undertaken an extensive consultation exercise. Fora were held in six capital cities across Australia between September and November to gain input on the review process and parameters. This was undertaken in parallel with a written submission process that closed in December.

### **This document summarises the key themes from the consultation process to inform a targeted workshop**

A stakeholder workshop is being held in early February which will provide an opportunity to test potential peer review models, informed by feedback from the consultations, with a diverse range of key stakeholders. This document summarises the key themes and findings from the consultation process and serves as pre-reading for the workshop. Nous has prepared the document based on observation of each consultation forum and analysis of the written submissions.

# The consultation feedback has been analysed to identify key themes

## Analysis, limitations and use of key themes

### Feedback has been collected through two mechanisms

The consultation process comprised two elements –

- **Written submissions** – with a Consultation Discussion Paper issued at the start of the consultation period and an associated online portal for submissions. Written responses were submitted on behalf of organisations, and by individuals on their own behalf.
- **Public fora** – Six public fora held across the country.

Nous attended the fora and identified key themes raised during these sessions, and undertook detailed analysis of the submissions to identify further themes.

### Key themes have been drawn from the consultation input

The findings presented in this document are the key themes from the consultation. This means that the information presented is that which was repeated consistently in the public fora and on multiple occasions in the written submissions. This does not mean the theme is presented as a conclusive finding; rather it represents a weight of opinion from those within the research community who engaged with the consultation exercise.

### There are limitations with the analysis presented

There are two limitations in the findings presented in this consultation report:

- It was not possible to identify and attribute feedback to speakers during the fora
- The sample size of 113 written responses enables an analysis of key themes but may not be considered representative

### The document is structured in line with the structure of the Consultation Discussion Paper

The document is structured in the following way:

- Assessment parameters – outlining feedback and implications for key parameters for the peer review process
- Relative to opportunity and career disruption – outlining specific feedback on these two policies
- The peer review process – with feedback presented on key elements of a potential peer review process

# A summary of the key themes from the consultations is presented below

## Key themes from the peer-review consultation process



### PEER REVIEW PARAMETERS

- Need to focus on impact and outcomes, rather than solely focusing on outputs
- Assessment of parameters (criteria) is highly subjective. Need more guidelines and clarity on the parameters to avoid overlaps
- Need appropriate expertise in peer review
- Peer review assessment criteria should support/recognise diversity of research and researchers
- Good research design is critical, preliminary data is less critical
- Need to find a balance between basic science and innovation



### RELATIVE TO OPPORTUNITY AND CAREER DISRUPTION POLICIES

- The intention of the policies is sound and fair and should enable greater diversity, but the policies have the potential to be broader in scope
- The application of the policies can be inconsistent and impacts on stakeholders
- There are differences of opinion between individual researchers and organisations relating to the clarity and consistency of the policies
- There are differences of opinion between male and female researchers on fairness



### PEER REVIEW PROCESSES

- None of the existing processes were seen as superfluous, although there was mixed support for the Applicant Response
- There were mixed opinions on whether an Expression of Interest or blinded reviews should be used
- Many respondents wanted the peer review process to include more feedback
- 'Near miss' applications should be identified and supported to re-submit in the next round
- Some support for approving the best applications straight after Independent Assessment without going to the grant review panel (GRP)
- Support for multiple rounds per year and iterative peer review



### PEER REVIEW OF NEW GRANT SCHEMES

- Proposed parameters (assessment criteria) for each of the three new grant schemes were supported by respondents
- There was some support, especially with Synergy and Ideas Grants for shortlisting based on assessment against a key assessment criterion (e.g. 'Synergy' in the Synergy Grants scheme)

# Assessment parameters

This section summarises the feedback presented on the six assessment criteria or parameters through the Consultation process. These are Track record, Knowledge gain, Innovation and creativity, Significance, Synergy and Feasibility.

# Track record

Respondents were asked to reflect on track record as a parameter for the new grants program, including: Research outputs and outcomes relevant to the proposed fields of research; Contribution to the discipline area; Other research related achievements; Mentoring environment to support junior emerging researchers.

## CONSULTATION HEADLINES

Track record is an essential parameter, but it is currently too subjective and weighted towards quantity of output rather than the impact and outcomes.

Track record assessments could be more nuanced than they are currently.

There is no support for a single track record assessment per application round (as mooted during the public fora).

## KEY THEMES

- There should be a greater focus on the outcomes and impact of research
- Track record assessments should take more account of the relevance for the field of research as different fields have different types of research output
- Track record assessments should take into account a greater diversity in the backgrounds of researchers
- Comments on alternative approaches to track record assessment included:
  - There are reservations about the use of a single track record assessment for each round as it would not have enough nuance to address the type of grant and specific area of research
  - There should be more focus placed on a finite number of best research publications by applicants (e.g. ten outputs across a career)
  - There should be a formulaic approach to assessing track record to improve consistency and reduce the subjectivity
  - Short-form track record submissions should be used (e.g. NIH Biosketch)
- More guidelines on track record assessments will improve equity of track record assessment

## IMPLICATIONS

- Approaches that improve the objectivity and transparency of the track record assessment should be examined.
- The track record assessment should be a more holistic assessment with a greater emphasis on the impact and outcomes of an individual's research.
- The written submissions did not support a single track record assessment per application round for all NHMRC schemes. If the burden on the peer review process is to be reduced, then other approaches will be needed.

# Knowledge gain

Respondents to the consultation process were asked to reflect on the approaches to assess the quality of the proposed research, incorporating theoretical concepts, hypothesis, research design, robustness and feasibility, to assist reviewers to assess 'scientific quality' under current NHMRC peer review arrangements.

## CONSULTATION HEADLINES

The knowledge gain parameter lacks sufficient clarity/guidance to differentiate itself from the innovation and feasibility parameters, which is seen to be confusing as all three will be used to assess Ideas grants.

Assessing knowledge gain will be too subjective unless subject matter experts do the assessment.

There is a concern knowledge gain will be harder to demonstrate for discovery/basic science research compared to translational research.

Knowledge gain should not be assessed in such a way that hinders innovation.

## KEY THEMES

- Organisational responses suggested that the knowledge gain parameter needs clearer definition to differentiate it from the significance and innovation parameters
- Assessors need to have relevant experience to determine potential knowledge gain; without relevant expertise then the assessment of knowledge gain would be subjective and open to interpretation
- Sound research design should underpin the breadth of scientific approaches, but this should not be biased towards one or two methods. There need to be clear guidelines and descriptors that acknowledge the different types of knowledge gain related to basic science/discovery, translational research, population health and clinical research.
- The knowledge gain parameter should not hinder innovation or creativity; knowledge gain should balance innovation and risk – ensuring that there is not a detrimental effect on basic science due to the inability to demonstrate feasibility

## IMPLICATIONS

- There may be a need for NHMRC to provide greater clarity on how knowledge gain should be assessed, ensuring that it is distinctly different to other parameters.
- There may be a need for NHMRC to consider whether non-experts assessing an application can objectively assess knowledge gain.
- Assessing knowledge gain needs to have sufficient nuance so that it does not inadvertently favour conservative research.

# Innovation and creativity

Respondents to the consultation process were pointed to NHMRC's current Project Grant scheme, where assessment of innovation is based on the extent to which the proposed research seeks to shift current paradigms and introduce or advance concepts, practices or approaches. Responses were sought as to what are important factors in assessing 'innovation and creativity'.

## CONSULTATION HEADLINES

Innovation and creativity are important factors, but there is uncertainty about how they differ from Knowledge Gain and Significance.

Clearer definitions and guidelines of all parameters are needed for assessments to be as objective as possible.

There is a trade-off between creativity and feasibility that needs to be taken into account.

## KEY THEMES

- Encouraging innovation and creativity in research is seen as important, but needs clearer definition and guidelines
- Assessment of "Innovation and creativity" may be better aligned with other parameters
- A balance is needed between supporting innovation and basic science
- Key considerations were presented on how "innovation and creativity" could be assessed – this included considerations around:
  - What is the focus of the research?
  - How is the research delivered?
  - Who delivers the research?
  - What is the impact of the research?

## IMPLICATIONS

- NHMRC needs to provide greater clarity on how innovation and creativity should be assessed, ensuring that it is distinctly different to other parameters.
- Peer review assessors need to understand that innovative research may be ground-breaking and it may be difficult to judge the feasibility of an innovative proposal.



# Significance

Respondents to the consultation process were asked to consider significance in respect of the extent to which research findings will be of great importance in the research area by substantially advancing knowledge, clinical and/or public health applications, policy development or other changes in the field.

## CONSULTATION HEADLINES

There is dissatisfaction with how Significance is currently assessed.

Testing Significance requires nuance when assessing translational research compared with basic science.

It is not currently clear to stakeholders that the policy focuses on the significance of the research in the context of the field of research, as well the significance of the field of research.

## KEY THEMES

- There are some challenges assessing significance with the current system – including:
  - Perceived subjectivity and inconsistency
  - Inadvertent impact on research funded due to a focus on translation
- Significance has more than one facet – feedback included:
  - Greater emphasis on potential outcomes of research rather than burden of disease
  - Importance of considering the significance in the Australian context
- Key considerations were submitted for how the “Significance” parameter could be improved – suggestions included:
  - Clearer guidelines – with standards of significance for different research types
  - Distinct assessment – based on the types of potential significance of the research
  - Focus on consumers/end-users – through potential inclusion in decision-making
  - Clear distinction between significance and feasibility – ensuring concerns about feasibility or approach do not impact the significance score.

## IMPLICATIONS

- The NHMRC definition of Significance needs to reflect that significant research does not (always) equate to research in a significant field.
- Guidelines, particularly with regards to significance of different research types, should be developed.
- There needs to be a clearer distinction between significance and feasibility.

# Synergy

Respondents to the consultation process were asked to consider that assessment of Synergy Grant applications will need to emphasise the value of multidisciplinary and diverse teams whose skills and perspectives will enable complex research questions to be addressed. Respondents were asked to propose elements to consider in assessing the “Synergy” assessment criterion.

## CONSULTATION HEADLINES

The Synergy parameter needs to assess that the potential outcomes of any collaborative effort are greater than the potential of its individual team members.

The Synergy parameter needs to be targeted to support collaboration where collaboration is expected to have the greatest impact.

A demonstrable track record of collaboration is a positive in assessing an application, but must not be so important that it precludes new collaborations forming.

## KEY THEMES

- Applications should outline where individual team members add value and how they will collectively deliver the research
- The intent of “Synergy” is not clear to all respondents
- There are mixed views as to whether previous collaboration experience should be considered – these fall into three categories:
  - Positive recognition of existing partnerships
  - Concern that emphasis on existing collaborations will hinder formation of new teams
  - A demonstrated track record of collaboration is needed from applicants, but not necessarily in the proposed team.
- There are opportunities for Synergy to increase involvement in research for some groups – inclusion of multidisciplinary and early career researchers, women, under-represented groups and consumers could be supported by the criteria

## IMPLICATIONS

- NHMRC needs to carefully define ‘synergy’ to ensure it clearly articulates the objective of the scheme.
- NHMRC should consider the extent and the ways in which the Synergy criterion should support the participation of under-represented groups in NHMRC-funded research projects.

# Feasibility

Respondents to the consultation process were asked for their input on approaches for the appropriate assessment of feasibility that would not have an over-reliance on the team's track record. The responses could refer to existing grant schemes and/or to other elements considered to be important in assessing feasibility.

## CONSULTATION HEADLINES

The assessment of feasibility should account for the skills and facilities that will be utilised.

Clarity in the research design should be acknowledged as an element of feasibility.

Preliminary data should be less relevant in assessing Ideas grants.

The Feasibility parameter should include a Risk Assessment.

## KEY THEMES

- Research design, skills and facilities are important elements for assessing feasibility, for example (but not limited to):
  - Is the budget adequate to deliver the project?
  - Is there a clear project plan on how to deliver work in the agreed timeframes?
  - Does the team have ability to draw on institutional knowledge that exists within other teams in the organisation?
  - Does the team have access to the appropriate infrastructure and the ability to use it?
- There are mixed opinions on the use of preliminary data to assess feasibility, these include:
  - Preliminary data should be a focus for feasibility
  - Preliminary data should not be used to assess the feasibility
  - Preliminary data should have lower prominence in assessment than currently
- Being able to demonstrate, and account for, how risks will be identified, managed and mitigated – with the inclusion of alternative strategies and milestones – was proposed for inclusion in the Feasibility parameter

## IMPLICATIONS

- There is a need for clear guidelines about how the use of preliminary data will be assessed in the future, especially in the context of Ideas grants.
- If Risk Assessments are used, there should be a standard structure and guidance for how risks are presented and rated.

# Relative to Opportunity and Career Disruption

This section summarises the feedback related to the 'Relative to Opportunity' and 'Career Disruption' policies. These policies intend to ensure that the assessment of track record is as equitable as possible and enable comparison across the full range of applicants.

## 'Relative to Opportunity' policy

The 'Relative to Opportunity' policy aims to ensure that assessment processes accurately assess an applicant's Track Record and associated productivity relative to stage of career, including consideration as to whether productivity and contribution are commensurate with the opportunities available to the applicant. Respondents were asked to provide feedback on the strengths and what could be improved with the current policy.

### CONSULTATION HEADLINES

In general, the policy and its intent were endorsed as appropriate and necessary.

There are some suggestions for improvement to the detailed elements of the policy.

There are issues with the application of the policy, both in terms of whether it is applied consistently and whether it is appropriately taken into account in the assessment.

### KEY THEMES

Theme	Current strengths	Opportunities for improvement
Opportunity for input	Opportunity for applicants to explain experience and track record	Narrative approach may allow for clearer explanation
Fairness	Takes account of factors that lead to career disruption	Replacement value may not capture the full impact of leave
Clarity and consistency	Half of organisations identified policy as consistent and clear	Individuals did not identify the policy as clear or consistent
Use by panels + implementation	Provides a guiding principle and actively reminded to consider	A perception the policy is currently overlooked in assessment
Diversity	Considers a diverse range of circumstances of career disruption	Opportunity to broaden the focus of the policy

### SUGGESTED CHANGES TO THE POLICY

- Inclusion of additional assessment criteria – including mentoring, clinical and teaching responsibilities and access to resources and infrastructure.
- Other suggestions included adoption of a narrative based approach, tick boxes, provision of unconscious bias training, consistency with ARC guidelines and assessment by single panel.

### IMPLICATIONS

- There needs to be a focus on how Relative to Opportunity is applied, potentially through clearer guidelines and user cases.
- The potential to broaden the definition could be considered.

# 'Career Disruption' policy

The 'Career Disruption' policy acknowledges the impact of continuous absences from work due to pregnancy, major illness or injury and carer responsibilities. Identification of career disruption can allow for the inclusion of additional track record information for assessment of an application. Respondents were asked to provide feedback on the strengths and what could be improved with the current policy.

## CONSULTATION HEADLINES

There is broad support for the Career Disruption policy, but some challenges have been noted in its application.

There is a view that careers can experience ongoing disruption (for example, parenthood of young children) that is not properly reflected.

There is a view that the policy needs to reflect a broader set of disruptions.

## KEY THEMES

### Theme

### Current strengths

### Opportunities for improvement

Acknowledging the challenges

Recognition that some researchers are impacted by career disruption that affects their research output

Policy could consider factors other than the duration of the disruption

Fair and equitable

Intent of the policy is fair and equitable and time-off should not have a negative impact

Current five year cut-off can have an adverse effect when assessing whole of career outputs

Simplicity and clarity

Clear and simple policy with types of disruptions clear and unambiguous

Simplicity of current model may fail to identify the full impact of the career disruption

Policy implementation

Some people believe the policy is appropriately applied

A perception that the policy is not always implemented as intended by assessors and panels

## SUGGESTED CHANGES TO THE POLICY

- Suggested potential changes to increase fairness include increasing the current disruption replacement value, shorter period of absence for eligibility, sectioning off funds for those impacted by career disruption or applying the adjustment factor post assessment.
- Ensuring consistency with ARC guidelines was also raised.

## IMPLICATIONS

- There needs to be a focus on how Career Disruption is applied, potentially through clearer guidelines and user cases.
- The potential to broaden what constitutes disruption could be considered.

# The peer review process

During the consultation process NHMRC presented a generic peer review process for feedback. This incorporated the steps currently included for peer review, plus other elements regularly referred to by the research community and seen in other jurisdictions. This section outlines consultation feedback on each step.

## Expression of Interest (EOI)

The consultation stated that: *NHMRC has received feedback that some applicants would favour using an Expression of Interest as the initial module of the peer review process for research grant schemes.* Respondents were asked what they think about using an Expression of Interest module in peer review of Ideas Grants in the new grant program.

### CONSULTATION HEADLINES

There was a mixed response relating to the EOI process, with a similar number of responses for and against the intent to introduce EOI into the overall process.

In general, there was support for the principle of an EOI, but negativity towards how it would work in practice.

EOI was seen as potentially beneficial for very specific grant types, for example, targeted calls for research.

### KEY THEMES

- Feedback on the EOI process was varied – negative feedback included that an EOI would:
  - result in an additional burden on reviewers and lengthen the process
  - represent a trade-off with two funding rounds per annum
  - result in assessment with insufficient information
  - result in funding extremes (such as safe projects or only new and exciting projects)
- Key features of an EOI were also put forward - including placing a greater emphasis on the idea of the research, capping the length of the application, a requirement for feedback for those that were shortlisted, and opportunity to re-apply following feedback.
- EOIs would be more appropriate for some grant types and could be trialed – this may include programs with a clearly defined focus (i.e. Targeted Calls for Research).

### IMPLICATIONS

- The lack of support for EOI is primarily based on the belief that it will add to the burden of the process; for this reason it might be worth considering testing an EOI process before it is fully implemented (either artificially through modelling, or in practice through a trial).



# Independent assessments

The consultation stated that: *Independent Assessments are provided by assessors without discussing the application or conferring with other assessors. A Full Application includes all the information required to enable review against a grant scheme's assessment criteria.* Respondents were asked what they think are the important features of Independent Assessments.

## CONSULTATION HEADLINES

Independent Assessment is supported by the majority of respondents.

There are operational challenges with ensuring the right expertise is deployed in assessing applications.

There is a need to increase the pool of assessors.

## KEY THEMES

- Independent Assessments are supported as a key part of peer review
- There are challenges associated with the expertise of assessors - mechanisms were proposed to address this including:
  - making participation as an assessor a condition for accepting a NHMRC grant
  - increasing the number of assessors (including international assessors)
  - reviewing current conflict of interest policy to ensure appropriate field assessors.
- A blinded review process presents potential challenges, primarily the challenge associated with maintaining anonymity due to the small pool of researchers in Australia, particular in smaller fields of research.
- Some respondents suggested that a blinded review could be most appropriate for Ideas Grants where there is a lesser focus on the assessment of track record.

## IMPLICATIONS

- Mechanisms to increase the pool of assessors should be considered, including a refinement of the conflict of interest restrictions, and establishing obligations for researchers with NHMRC grants.

# Shortlisting

The consultation stated that: *NHMRC uses a variety of approaches to reduce the burden of peer review on assessors. Most commonly, this involves removing the least competitive applications from further review based on the outcomes of the first phase of the peer review process.* Respondents were asked what they think are the important features of Shortlisting.

## CONSULTATION HEADLINES

Shortlisting is an important step in the process and helps minimise the burden.

There need to be clear thresholds that are well understood, with the potential for near-misses to be given an opportunity to re-apply.

Comparing/ranking submissions could be a fairer way of shortlisting than using a simple scoring mechanism.

## KEY THEMES

- There was generally positive feedback relating to the Shortlisting process. This has the potential to significantly reduce the burden for peer reviewers and it would be an appropriate stage to remove applications from the process that will clearly not be funded.
- There should be a clearly defined and communicated threshold for shortlisting, with support for these thresholds to be different across the different grant types and related to the expected success rates for the grant type.
- It was commented that it is possible to have more than a binary yes/no for shortlisting outcomes, with 'near-miss' applications allowed to re-apply in the following round.
- Fairness and assessment expertise are important for the Shortlisting process, but a straight scoring system causes issues in the consistency and potential biases in the assessment; moving to a ranking system would remove this issue.

## IMPLICATIONS

- NHMRC should develop clear guidelines for shortlisting which outline thresholds for cut-offs and processes for allocating assessors.

# Applicant Response

The consultation stated that: *NHMRC currently has two main approaches for providing applicants with an opportunity to address issues raised by their assessors: (i) written rebuttal before shortlisting and (ii) interview by a peer review panel after shortlisting. NHMRC also uses peer review models that do not include an Applicant Response module, but the number of Independent Assessments is increased.* Respondents were asked what they think are the important features of Applicant Response.

## CONSULTATION HEADLINES

There are clear differences of opinion on the value of the Applicant Response.

It was acknowledged that this step could be removed if other safeguards or feedback mechanisms were adopted in the process (such as EOI or resubmission in the next round).

## KEY THEMES

- There was a mixed response on the value of the Applicant Response stage
- There are challenges in the current process – these include:
  - applicants not being provided full information on their application – including their score
  - applicants not being able to modify their application based on feedback received
- Applicant Response was identified by individual responders as a necessary safeguard – it is viewed as currently important due to the following features in the current model:
  - the level of expertise of assessors
  - the limited nature of feedback
  - the fact there is no current EOI process
  - the lack of resubmissions process and no “panel memory” in place

## IMPLICATIONS

- The Applicant Response stage needs to be considered in the context of the whole process and whether there are alternate safeguards.

# Review by Panel

The consultation stated that: *All of NHMRC's current grant schemes use Review by Panel at least once during the peer review process. Review by Panel provides an opportunity for assessors to discuss the strengths and weaknesses of an application and differs from Independent Assessment.* Respondents were asked what they think are the important features of the Review by Panel.

## CONSULTATION HEADLINES

Review by Panel is seen as an essential element of the process.

There are several suggestions as to how panels could be improved or the burden on panels reduced – including having the top x% of applications following shortlisting be passed straight to approval.

## KEY THEMES

- Review by Panel was identified as an essential part of a peer review process
- The right expertise on panels is of critical importance
- There is a difference of opinion on whether all applications should be considered by the panel – models put forward included:
  - Panels assessing all shortlisted applications
  - Panels only assessing middling applications that are borderline
  - Small number to progress through without panel consideration
- Loss of 'panel memory' was identified as a key issue; there could be an opportunity to re-apply to the same panel, on the basis that the panel understands the context of the research proposal and has provided feedback in the past – maybe limited to 'near-miss' applications.

## IMPLICATIONS

- There should be a focus on: (a) how to improve the perceived 'fairness' of the Review by Panel step and (b) reduce the burden on the GRPs.