A Summary of Peer Review for Project Grant Applications
May 2012
When the Project Grants scheme closed on 14 March 2012, NHMRC had received over 3700 applications. We will convene 36 Grant Review Panels involving about 500 panel members and many thousands of external reviewers.

Our Project Grants peer review processes also provide peer review for other funding organizations including the Cancer Council Victoria (CCV), the National Heart Foundation Australia (NHFA), Cancer Australia (CA) and the Commonwealth Department of Health and Ageing (DoHA).

The Project Grants scheme is NHMRC’s largest funding scheme. In this letter I hope to describe in sufficient detail how our peer review processes work and why we do things the way we do.\(^1\)

This Newsletter describes some of the thinking behind why Project Grants peer review processes are how they are. More specific descriptions of the process can be found at on our website (see footnote, below):

\[\text{Professor Warwick Anderson AM}\\
\text{May 2012}\]
The importance of good and appropriate peer review

We have set a goal of “evolving peer review” in our current Strategic Plan. NHMRC’s financial support for research comes from the people of Australia through their government and we have an obligation to ensure that we are able to justify our processes to them.

Peer review needs to be at the highest international standards, using processes that are as transparent as possible and that deliver outcomes that are both fair and seen to be fair, and are appropriate to the goals of the particular funding vehicle.

We identified the following characteristics for NHMRC peer review in the Strategic Plan – NHMRC Peer Review:

- ensures all applications receive the best possible review
- is transparent, with independent observers
- is appropriate to the research approaches involved, including multidisciplinary and interdisciplinary research
- utilises new technologies to improve lodgment & processing of applications
- utilises international peer reviewers
- publicly recognises and acknowledges participation.

Overview

Peer review can be explained as occurring in two key stages.

The first provides the applicant with reviewers’ written assessments and an opportunity to write a “rebuttal”.

The second is the meeting of the Grant Review Panel, which makes the final decision regarding an application’s score.

We aim to support the best research ideas each year, as judged by peers and in accordance with NHMRC’s selection criteria for Project Grants which are:

- **Scientific Quality** of the applications’ research objectives
- **Significance and/or Innovation** of the proposed approach
- **Track Record** of the research team and their ability to successfully deliver the research.

There are no exclusions for applications to NHMRC’s Project Grants scheme, because we will support any and all research approaches relevant to health, from the most fundamental investigation of life through to broad ranging applied research; from research to benefit individual patients through to ‘whole of health system’ approaches.

We aim to ensure that all researchers have a fair chance on a level playing field of being funded. The level playing field involves having clear and specific selection criteria; ensuring that all applications undergo consistent peer review processes; that as much expertise is brought to applications in all the different fields of research as possible; that independent scrutiny occurs throughout; and that peer decisions remain the cornerstone of NHMRC processes.

Whatever we do, it is essential that the wider community as well as the research community can trust the process. This is why we call upon a large number of expert peers to contribute to the complex process of peer review. There are shortcuts that perhaps could be taken but which cannot stand scrutiny as to the fairness and quality of the outcomes.
Peer review is a complex process, undertaken by committed researchers. Each peer reviewer will have their own views on applications. It’s a human activity and we all bring our training, experience and individual knowledge to the table. NHMRC’s policies are therefore designed so that we can fund the highest quality research, following a consistent, fair and equitable assessment of each application, as outlined below.

Below I have outlined the various processes that NHMRC undertakes to ensure timely, fair and robust review of all applications in the Project Grants scheme. There is more detail at [http://www.nhmrc.gov.au/grants/apply-funding/project-grants](http://www.nhmrc.gov.au/grants/apply-funding/project-grants).

### Applications to NHMRC

The number of applications continues to grow significantly.

Applications opened on 7 December 2011 and closed 14 March 2012. This year, 3727 applications were submitted. As the Table below shows, the numbers of applications continues to rise, by more than 1300 in the last 5 years.

#### Table 1: Number of applications for each application year

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<thead>
<tr>
<th>Application year</th>
<th>Number of applications</th>
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<tbody>
<tr>
<td>2007</td>
<td>2420</td>
</tr>
<tr>
<td>2008</td>
<td>2587</td>
</tr>
<tr>
<td>2009</td>
<td>3001</td>
</tr>
<tr>
<td>2010</td>
<td>3238</td>
</tr>
<tr>
<td>2011</td>
<td>3369</td>
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After close of applications, NHMRC senior scientific staff perform an initial, interim allocation of applications to the Assigners Academy and GRPs, based on applicant identified Peer Review Area preferences.

The Assigners Academy has the critical tasks of helping finalize the allocation of applications to GRPs and obtaining two external assessments for each application.

### Written peer review reports

Like most other international funding bodies, we use external peer reviewers to provide panels with the expertise needed to cover all the research applications being reviewed each year.

Securing two external assessment reports for each application is a crucial part of ensuring fair and robust scrutiny of each application. In 2012, Assigners Academy membership has expanded to approximately 160 to accommodate the ever increasing Project Grant application numbers and their diversity of discipline, approaches and methodologies.

Assigners Academy members will work with each other and senior staff in NHMRC’s Canberra Office with access to a revised RGMS database that provides over 15,000 RGMS CVs and new software, [Reviewer Finder](http://www.nhmrc.gov.au) (used by some international research funding bodies).
The information garnered from Reviewer Finder is able to link potential peer reviewers to each application by using publication information extracted from PubMed. I am confident this new functionality will greatly assist the Assigners Academy to identify the most appropriate external assessors and, in turn, better progress this part of the peer review process.

As you can appreciate, it is essential that NHMRC receives assessor and spokesperson reports with enough time to allow applicants to respond to those reports and then enough time for the GRP members to consider both the reports and the rebuttal prior to the GRP meetings.

**Grant review panels**

The task of allocating applications to GRPs, with 90-110 applications per GRP, is challenging. Establishing around 36 GRPs, these difficulties arise from dealing with applications across 225 defined fields of research, four Broad Research Areas (Basic Science, Clinical Medicine and Science, Health Services Research and Public Health), and also taking into account that the majority of applications are multidisciplinary. NHMRC’s policy is to establish GRPs with approximately equal numbers of applications (around 100). This helps to ensure that similar time is devoted to each application, to share the workload and to ensure all applications receive enough time for consideration by the GRP. Unfortunately it is very rare that the numbers of applications in a field or research area exactly fit the numbers to make up a GRP!

Some research fields such as immunology and microbiology are large and complete GRPs that consider around 100 applications can be constructed for these fields. However, most have fewer than 100 applications and are multidisciplinary and so the exact numbers of applications across the research disciplines determines the final mix of multidisciplinary panels.

GRP membership is onerous on its members and NHMRC is grateful to the many hundreds of researchers who volunteer their time and commitment so willingly each year. On top of their primary and secondary spokesperson responsibilities, each GRP member must read and consider all applications assigned to the panel. This is a huge load, but scientific research cannot proceed without peers assessing peers.

As well, we try to achieve a balance in the people we ask to serve on GRPs. Our Research Committee has endorsed principles for appointment of GRP members:

- retain approximately 60 per cent of membership from the previous year
- ensure broad State and Territory representation
- ensure representation from large and small Administering Institutions
- ensure spread of a single Administering Institution’s applications across GRPs
- maintain balanced representation of gender
- ensure expertise is appropriate for the applications before the panel
- avoid, where possible, instances where a panel considers an application submitted by an applicant serving on the same panel.

**Independent Chairs**

The independent Chairs are responsible directly to NHMRC for ensuring that peer review policies are upheld. In selecting Chairs, NHMRC seeks experienced researchers of the highest integrity that have no, or minimal, conflicts of interest with the applications under review. Research Committee has endorsed a Framework for selecting GRP Chairs, which is included in the Peer Review Guidelines ([http://www.nhmrc.gov.au/grants/apply-funding/project-grants](http://www.nhmrc.gov.au/grants/apply-funding/project-grants)).
Prior to commencing their duties, Chairs receive a comprehensive briefing session from senior NHMRC staff to ensure they are confident in their role and in their ability to uphold the peer review process in a fair, equitable and transparent way.

Managing Conflicts of Interest

One of the major processes each participating peer review member must undertake each year is to declare their conflicts of interest. Other researchers and the wider community seek assurance on this aspect of peer review and wish NHMRC to take the identification and management of conflicts of interest seriously. Clearly, assessment of applications should be based solely on assessing the value of the application, as judged against the selection criteria. Therefore, it is essential that members involved in peer review – whether the Assigners Academy, external assessors or GRP members - are free from any conflicts of interest that may influence their advice.

As a relatively small country, with a collaborative research spirit, potential conflicts of interest arise frequently. Details of how NHMRC manages conflicts of interest for Project Grants are provided in the Peer Review Guidelines. In summary:

- all peer reviewers must declare their conflicts of interest prior to accessing confidential documentation.
- no peer reviewer can be assigned an application on which they have a conflict of interest.
- conflicted GRP members do not participate in discussion and excuse themselves from the meeting room.
- wherever possible applications are not assigned to a GRP on which members are the applicants. Such applications are assigned to “sister” panels.

Allocation to spokespersons and their role

Allocation of applications to spokespersons is generally a two-step process. After they have declared their conflicts of interest, panel members are able to nominate applications assigned to their panel that they are best-placed to review. Based on this information, NHMRC senior staff members allocate applications to potential primary and secondary spokespersons. Taking conflicts of interest into account, we try hard to match applications as closely as possible with the spokesperson's expertise.

Primary spokesperson (1SP)

Prior to the GRP meetings the 1SP is required to write an assessor’s report and provide a preliminary score against the three selection criteria. This report along with external assessors’ reports is provided to the applicant. At the GRP meeting 1SP leads the discussion of the application including the budget (where necessary), taking into account the applicants’ responses (“rebuttal”) to all assessors’ comments. This role is particularly demanding, involving many hours of preparation for each application.

Secondary spokesperson (2SP)

At the GRP meeting, the secondary spokesperson presents the external assessors’ views and applicant’s response formally to the GRP during consideration of each application. Prior to the GRP, 2SP is also required to read the application and provide preliminary scores against the selection criteria.
Grant review panel meetings

The 2012 Grant Review Panels (GRPs) will meet over six weeks from 30 July to 7 September 2012 in NHMRC Canberra offices and each panel will meet for up to 5 days.

Not for further consideration process (NFFC)

This process was introduced to help limit the numbers of applications being reviewed in depth by each GRP to a manageable number. It removes around one third of the applications as being the least likely to be funded. This allows the GRPs to concentrate on those likely to end up in the fundable range (category 4 and above). Since NHMRC is only ever able to fund the top 20-25% of applications, it is very unlikely that the bottom third of applications will be scored in the top 25% after GRP discussion, as previous experience has shown.

In 2012, the NFFC process will be based on the category scores of 1 and 2 SP, after they have considered the external assessments and the applicant’s response. More detail is provided in the Peer Review Guidelines.

The complete step-by-step process for GRP consideration of applications is provided in the Peer Review Guidelines. The whole process is aimed at achieving consistent and fair consideration of all applications.


To ensure that GRPs score consistently across panels, we track each panel’s scoring profile on a daily basis. If any particular profile appears inconsistent with the long term norm for the panel, the GRP Chair is asked if the scoring seems prima facie to be out of line with previous years. The aim is to ensure that GRPs adhere rigorously to the selection criteria and their descriptors, so we can be confident, as far as possible, that scores are equivalent across all GRPs.

Assessing career disruptions and “relative to opportunity”

Research Committee has approved a revised description of how career disruptions should be considered in order to provide clear advice for panel members when assessing an applicant’s Track Record. The primary intention of this advice is to assist applicants who may have borne children or have been affected by serious illness during the usual 5 year period for assessing publications.

Career disruption is different to “relative to opportunity.” For the latter, GRPs are asked to take into account the differences in publication opportunity between full time researchers versus those with other duties. These policies are detailed in the Project Grant Funding Rules (see above).

Observers

Independent Observers are a valuable and crucial part of the peer review process. Their involvement contributes to the fair and equitable assessment of applications by observing and reporting on NHMRC peer review process, facilitating community views through their involvement and reporting, and in general, contributing to the NHMRC’s continued commitment to maintain community, professional and government confidence in our peer review processes and funding outcomes.

Observers are usually from medical research charities and consumer health organizations. They are not active researchers but do hold respected positions in society. Their responsibility at the GRP meetings is to provide an independent view to NHMRC that processes are adhered to and are fair within and between panels.
After GRPs – the Formal Processes

**NHMRC’s Research Committee**

Research Committee will meet in September 2012 to consider the outcomes from the GRPs and to make funding recommendations to Council.

After the last week of GRP meetings, Office of NHMRC will collate and quality check the scores of all applications. No changes to GRPs’ scores are made at this or any other time.

Research Committee will determine the total number of applications that it considers appropriate to recommend for funding, taking into consideration the budget it set in February 2012, as part of its recommendations for funding across all NHMRC funding schemes. In recommending funding, Research Committee members do not have access to any information about specific grants and operate according to strict conflict of interest guidelines at all times.

The number of applications funded each year relates to the funds available to support research and is not a division between funded and “rejected” applications. In fact, each year there are many more applications that are worthy of funding but which remain unfunded.

To explain further, each year, there are enough funds to support all applications rated as category 7 (just 3 in 2011) and category 6 (286 in 2011), and only a proportion of those assessed as category 5. In 2011, 39% of applications were assessed to be category 5 applications and, of these, 29% were funded. After funding all applications in categories 7 and 6, NHMRC funds the same proportion of applications in category 5 across all panels.

The funding outcome and applications worthy of funding over recent years is summarized in Figure 1.

**Figure 1: Funding outcomes 2000 - 2011**

Note: In 2006, a “notice of Intent to Submit was introduced for one year. This elicited a considerable increase in submitted applications.
**Special Areas and Strategic Plan Initiatives**

NHMRC funds the best proposals as determined by the GRPs. In some instances NHMRC seeks to fund additional applications in specific areas, to stimulate research interest in areas identified in our Strategic Plan, or to utilise funding provided by other organizations. Ensuring adequate investment in these areas sometimes requires funding applications that are deemed fundable but may fall below the standard Project Grant funding cut-off. These include:

**Indigenous health**: This is NHMRC’s only enduring research priority and we are committed to spending at least 5% of our total funding on Indigenous health research. Research Committee recommends funding additional fundable grants below the standard Project Grant cut off. In 2010, 21 of 53 applications were funded (40% funded rate) and in 2011, 30 of the 61 applications were funded (49% funded rate).

**Strategic Plan initiatives**: NHMRC encourages applications in areas identified in our Strategic Plan as “Major Health Issues” for the triennium\(^2\) and where an additional research effort is needed. Each year, Research Committee is asked to consider a small number of category 5 applications that fall below the standard Project Grant cut off. These applications are carefully assessed to ensure they closely meet the particular strategic plan initiative area description. In 2011, an additional 19 strategic plan initiative applications were funded. These are advertised in our funding call for applications.

**Other government departments**: Each year, NHMRC runs peer review for other agencies that wish to fund research projects in a particular area. For example, in 2011 the Department of Health and Ageing funded grants in Maternity Services research and since 2009 the Department of Climate Change and Energy Efficiency has funded applications addressing the health challenges of climate change. In these Special Initiative areas, NHMRC funds any applications above the cut off line and provides the details of all other fundable, but unfunded applications to the respective agencies for their final decisions.

**Charitable non-government organisations**: NHMRC works with a number of charitable funding bodies, such as the Cancer Council Victoria and the National Heart Foundation of Australia. We provide peer review of their applications to reduce their peer review load and thus the load on the whole research community. For these organizations, NHMRC funds any application that is above our funding cut off, if the applicant has indicated they seek either NHMRC or the charity’s funding. We refer the other fundable applications, and any applications seeking charity funds only, to the charities for their decision making. We also undertake peer review for our sister Commonwealth governmental agency, Cancer Australia.

**NHMRC’s Council**

Research Committee’s recommendations are presented to NHMRC Council. Like Research Committee, Council does not have access to information on individual grants. Through long convention, Council is asked to confirm or reject Research Committee’s recommendations, but not amend them. If Council rejects Research Committee’s recommendations they would be referred back to Research Committee for consideration. To date this has not happened.

**Ministerial approval and announcement**

The NHMRC CEO accepts Council’s recommendations and then formal documentation is prepared seeking the Minister’s approval to expend public money. Once formal approval is granted by the Minister, s/he announces the successful applications and NHMRC formally notifies applicants of the outcomes through their Institutional Research Administration Offices and RGMS.

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\(^2\) NHMRC Strategic Plan 2010 - 2012
The Grant Review Panel Assessment Summary (GAS)

Last year we introduced the Grant Review Panel Assessment Summary (GAS) to replace the previous GRP Final Reports. Primarily, this was in response to NHMRC’s Commissioner of Complaints’ strong recommendation that NHMRC should reconsider the narrative feedback previously provided to applicants. Research Committee accepted this and agreed that a simpler, quantitative report was of more value, providing applicants with precise information on how their application scored against other applications, in each of the three criteria.

Some final comments

NHMRC’s peer review has evolved over the last two decades, but the essential components remain – specific, internationally-benchmarked selection criteria, a panel decision and an overall ethos of funding the best ideas and the best research.

The biggest change NHMRC has implemented over the last 15 years has been the transition from a State by State interview process to a nationwide process involving expert review and discussion in a panel forum.

We have always valued the use of external assessors and throughout that period have had a Commissioner of Complaints to receive and adjudicate any concerns raised by researchers regarding NHMRC’s administration of peer review.

Technology has changed over this period from paper to Informed Filler to RGMS. We are very hopeful that the full implementation of RGMS and its attendant software will give us, and you as applicants, stability over the coming years.

We can always improve and each year we gather comments and ask Research Committee’s advice on how to improve. We take into account the many individual comments from GRP members, community members, applicants and reviewers. This feedback is invaluable and it is the task of Research Committee and the Office of NHMRC to take this feedback and continue to improve our process. Not everything is possible within the constraints of Office of NHMRC funding resources and broad ranging Commonwealth legislation and policy which prescribes the use of government funds.

Finally, times change. NHMRC’s new IT infrastructure and ability to manage large volumes of complex information open the possibility of new ways to further improve fairness, quality, and timeliness. For example, journal publication peer review is now almost entirely electronic and occurs continuously.

I feel that more can be done with peer review and grant funding in this regard. The full implementation of RGMS will also afford NHMRC the opportunity to be more flexible in the annual round. This year we will introduce a number of “rounds” for Partnerships for Better Health Projects and we also plan to discuss with the research community the possibility of introducing a continuous application process for large scale clinical trials. We believe that this will especially suit clinical trials, where it can be tricky to arrange co-funding synchronized with NHMRC timings, but will also act as a trial for all projects grants in the future. While this is still in the very early stages I hope that this flexibility can eventually be available for Project Grants too.

Acknowledgments:

I am grateful for the help of Dr Clive Morris, Dr Tony Willis and their teams at Office of NHMRC, and members of NHMRC Research Committee, in preparing this document.
Why does NHMRC use external assessors for Project Grants?

Our aim is to provide all applicants with high quality peer review and for this to be as fair and consistent as possible across all applications. In the related document, *NHMRC Project Grant Applications 2012 - Peer Review Processes*, we set out our principles for peer review.

With different sized fields of research in Australia, from large (such as neurosciences, cancer biology & oncology) to small (diagnostics, sport science, medical imaging) or newly emerging disciplines (nanobiology), having two good external peer review assessments helps overcome the difficulties of GRPs with varying mixes of disciplinary expertise.

Most international organisations that conduct one annual funding round use external written reviews. For NHMRC, this allows applicants to make a written response to the reviewers (rebuttal) – when there are multiple rounds (such as NIH, applicants can instead revise and resubmit within months).

In Australia, we have researchers across a similar breadth and diversity of research fields and disciplines as the USA and other larger countries. However, the numbers of researchers in different fields and disciplines varies widely in Australia, especially in new and emerging research areas. This means that only a proportion of our health and medical research sector is large enough to accommodate a panel that consist wholly of researchers of one discipline (as discussed above). For most fields of research in Australia, the numbers of applications each year is small and varies between years and therefore we need to form multidisciplinary GRPs. These need to cover applications therefore over a much wider range of disciplines, approaches and fields than do, for example, each NIH study sections. (It is interesting to note that NIH too has been increasing their numbers of external assessments in recent years.) The expertise in some of the application areas in any year may be limited to just one or a small number of GRP members on a panel and so it is essential that the panel members have available to them true peer opinion from external assessors, so that all panel members are able to make an informed and fair judgment.

A system on relying only on the reviews of GRP members themselves was trialed by NHMRC in 2006 but it meant that applications in small fields received less extensive peer review at the multidisciplinary panels compared to applications from larger disciplines that were reviewed by single discipline panels.
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<thead>
<tr>
<th>QUESTION</th>
<th>RESPONSE</th>
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<tbody>
<tr>
<td>How are external assessments used by GRPs?</td>
<td>These reviews are available to the whole panel for consideration. However the 2SP has the responsibility of formally presenting the views of the external assessors to the GRP. In this way, NHMRC ensures that external assessors’ views (and expertise) are provided fully for consideration during panel discussions.</td>
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<tr>
<td>How many external assessments will I get?</td>
<td>We plan for each application to received three written reports; one from the 1SP and two external assessors. Achieving this relies on peers (1SP and external assessors) delivering a review on time. In this, we depend on researchers who agree to write reviews and doing so in time for them to be returned to the applicants for rebuttal. In 2011, the majority of applicants received 2 external assessments (a total of 2446 applications or 70% of applications, up from 41% in 2010). Seventy applications had no external assessment and 979 received one external assessment. A small number received more than two, due to late submissions of reviews after the deadline. I am confident that we will again improve this in 2012, through further improvements to the RGMS database and Reviewer Finder and earlier and expanded involvement of the Assigners Academy member. Finally, I would like to remind all recipients of NHMRC funding that participating in peer review is a requirement of receiving that funding.</td>
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<tr>
<td>Does NHMRC use overseas external assessors?</td>
<td>Yes, there are no restrictions placed on the NHMRC Academy member in nominating overseas assessors. As well, we are also called increasingly on the New Zealand Health Research Committee and the National Medical Research Council of Singapore for panel member nominations.</td>
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<tr>
<td>Why is NHMRC using the Not For Further Consideration (NFFC) process?</td>
<td>This is to minimize the workload on GRP members by removing some applications from the GRP review. The NFFC list is determined once the spokespersons and external assessor reports have been sent to the applicants and they have submitted a “rebuttal.” This NFFC list is determined just prior to the GRP meeting itself. Based on this list ONHMRC excludes applications from full panel discussion. However if even one panel member feels that the scores are not reflective of the application’s quality, the grant application can be ‘rescued’ and hence discussed under the normal GRP protocol. Full details of the NFFC process is outlined in the NHMRC Peer Review Guidelines for funding commencing in 2013 here: <a href="http://www.nhmrc.gov.au/grants/apply-funding/project-grants">http://www.nhmrc.gov.au/grants/apply-funding/project-grants</a></td>
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Why does NHMRC not consider journal impact factors, H-index or ERA journal rankings in the assessment of people’s track record?

Journal rankings rank the journal, not individual papers. In an analogous way, the Excellence in Research for Australia (ERA) initiative was not designed to rank individuals, but groups. All serious commentators in bibliometrics warn against equating journal rankings with an individual paper’s quality and impact.


The key issues identified in this paper were the following:

- The JIF of the journal in which a publication appears does not describe the impact or importance of the individual papers – it describes the overall citation of all papers in that journal in a given time period.
- The impact of an individual paper is better assessed by citations acquired by that paper.
- The quality and importance of a paper is a peer review judgment that needs to take into account many factors.
- Simplistic use of the JIF to assess the quality of individual papers is inconsistent with what is known about bibliometrics, notably with respect to the differences in citation practices between different fields of research.
- While this paper was focused on the use of JIF, there are many other publication and citation metrics available to the research community that can potentially be misleading when applied to the peer review of publication outputs of a small research team or individuals.
- For example, there have been questions raised by the research community whether the ERA Ranked Journal List will be used in the peer review of NHMRC grant applications. The ERA Ranked Journal List was compiled for the purpose of performing large-scale, retrospective ranking of published outputs in a single field of research at the institution level over a fixed time period (2003 – 2008). For this reason it is NOT appropriate to use these journal rankings in the peer review of grant applications, as the number of publications in question may be very small and may span multiple fields of research. Recently, it was announced that the journal rankings will no longer be used in the ERA 2012 process.

continued.....
Why does NHMRC not consider journal impact factors, H-index or ERA journal rankings in the assessment of people’s track record?

There are similar issues with the use of other publication and citation metrics in peer review. For example, another popular citation/publication metric is the H-index, which is bound by the total number of publications from an individual and can therefore be seen to have an age-related (or years of active research/publishing) bias. In addition, H-index does not take into account different citation practices between fields of research and can therefore be misleading when used to make comparisons between individuals or teams of researchers.

NHMRC expects peer reviewers to take into account their expert knowledge of their field of research, as well as citation and publication practices of that field when assessing the publication component of track record. Track record assessment should take into account the overall impact and contribution to the field of all the published journal articles from a team of grant applicants, not just the standing of the journal in which those articles are published. The NHMRC encourages the publication of articles in high quality journals but does not support using the overall impact of all publications in a journal as a proxy measure for the impact of individual published outputs.
Principles

Peer review needs to be at the highest international standard, using quality processes that are as transparent as possible and outcomes that are both fair and seen to be fair. NHMRC peer review:

• aims to provide all applications with the best possible review;
• is transparent, with independent observers;
• is appropriate to the research approaches involved;
• utilises internet-based technologies to improve lodgement of applications;
• utilises both domestic and international peer reviewers
• is recognised and acknowledged publicly by NHMRC.

High Quality

The highest quality peer review depends on ensuring that each application is assessed by reviewers with appropriate skill and expertise. This is a complex task, as applications to NHMRC cover every discipline, are often multi-disciplinary and employ a wide array of sophisticated techniques and methodologies. For this reason, two external assessors are sought for each application to help ensure the high quality of peer review is maintained across all applications.

Consistency

It is the responsibility of the Assigners Academy, NHMRC Staff, the Grant Review Panel (GRP) Chairs, Assistant Chairs and every Grant Review Panel (GRP) member to ensure that NHMRC’s processes are followed and applied consistently for every application. The 2012 Project Grants Funding Rules and NHMRC Peer Review Guidelines for funding commencing in 2013 (Peer Review Guidelines) (http://www.nhmrc.gov.au/grants/apply-funding/project-grants) detail the review process to be followed at each stage of peer review.

Fairness and equity

Each application must be assessed on its individual strengths and weaknesses by external assessors and GRP members with appropriate knowledge and expertise, and assessed in a consistent manner against each of the three Project Grant Selection Criteria. The emphasis on a consistent and systematic approach to assessing each application ensures fairness across all applications.
The process: from application to Ministerial approval

Roles and responsibilities of all parties involved in peer review are outlined in the 2012 Project Grant Funding Rules and Peer Review Guidelines (see above).

1. Submission

All applications are prepared and submitted using NHMRC Research Grants Management System (RGMS). Institutional Research Administration Officers submit the final endorsed applications on behalf of their administering institutions.

2. Allocation to Assigners Academy and Grant Review Panels (GRPs)

NHMRC senior scientific staff perform the initial allocation of applications to the Assigners Academy and GRPs, based on applicant-identified Peer Review Area preferences.

The Assigners Academy’s task is to advise on the final allocation of applications to GRPs and to obtain two external assessments for the applications they are assigned.

Applications to NHMRC cover the four broad research areas (Basic Science, Clinical Medicine and Science, Health Services Research and Public Health) and 225 defined fields of research. The objective is to establish 36 GRPs, each with approximately 14 members and 100 applications to review. In establishing GRPs, NHMRC staff apply the Research Committee endorsed Guiding Principles for Nomination and Appointments, which are included in the Peer Review Guidelines. Assigners Academy members work collaboratively with each other and with Senior NHMRC staff. They utilise the RGMS database and new software (Reviewer Finder™) to identify and invite potential external assessors.

3. External Assessment

NHMRC staff and Assigners Academy members aim to ensure NHMRC receives assessor reports with sufficient time for applicants to respond to those reports and for the GRP members to consider both the reports and the rebuttal prior to the GRP meetings.

4. Spokespersons

Once applications have been assigned to a GRP and GRP members have declared their conflicts of interest, applications are allocated to spokespersons. Initially, panel members are able to nominate applications that they are best-placed to review, with NHMRC senior staff doing the final allocation of 8 applications as primary spokesperson (1SP) and 8 applications as secondary spokesperson (2SP).

Prior to the GRP meetings, the 1SP is required to write an assessor’s report and provide a preliminary score against the three selection criteria. This report along with external assessors’ reports is provided to the applicant. At the GRP meeting 1SP leads the discussion of the application including the budget (where necessary), taking into account the applicants’ response (“rebuttal”) to all assessors’ comments. This role is particularly demanding, involving many hours of preparation for each application.

The 2SP is required to provide preliminary scores against the selection criteria prior to the meeting. At the GRP meeting, the secondary spokespersons primary role is to present the external assessors’ views and applicant’s response formally to the GRP during consideration of each application.

All members are required to read all applications and the written assessments, so that they are ready to participate in the discussion of the applications during the GRP meeting.
5. Grant Review Panel Meetings

*Independent Chairs*

Independent Chairs are responsible for ensuring that peer review processes are upheld. In selecting Chairs, NHMRC seeks experienced researchers of the highest integrity that have no, or minimal, conflicts of interest with the applications under review. The Research Committee endorsed Framework for selecting GRP Chairs, is available in the Peer Review Guidelines.

*Managing conflicts of interest*

It is essential that members involved in peer review – whether the Assigners Academy, external assessors or GRP members – are free from any conflicts of interest that may influence their advice. Details of how NHMRC manages conflicts of interest for Project Grants are provided in the Peer Review Guidelines.

*Not for further consideration process (NFFC)*

This process removes the bottom third of the applications and allows the GRPs to concentrate on those applications likely to end up in the fundable range. This process is fully described in the Peer Review Guidelines.

*GRP process for each application*

This process is fully described in the Peer Review guidelines and also illustrated in the introductory YouTube video of the process at: http://www.nhmrc.gov.au/grants/peer-review/nhmrc-grant-review-panels-induction.

*Observers*

The role of Observers is to provide an independent view to NHMRC that GRP processes are adhered to and that assessment is fair and equitable within and between panels.

6. Approval Processes

*NHMRC Research Committee*

The role of Research Committee is to consider the outcomes from the GRPs and to make funding recommendations to Council.

Research Committee determines the total number of applications that it considers appropriate to recommend for funding, based on the available budget. In recommending funding, Research Committee members do not have access to any information about specific grants and operates according to strict conflict of interest guidelines at all times. No changes to GRPs’ scores are made at this or any other time.

In framing its final recommendations to Council, Research Committee considers additional applications in specific research priority (Indigenous Health) and Strategic Plan Initiative areas. Additional applications may be recommended that are deemed fundable but fall below the standard Project Grant funding cut-off.
NHMRC Council

Research Committee’s recommendations are provided to NHMRC Council for endorsement. Like Research Committee, Council does not have access to information on individual grants to avoid any potential conflict of interest.

Ministerial approval and announcement

The NHMRC CEO accepts Council’s recommendations and then formal documentation is prepared seeking the Minister’s approval to expend public monies.