Structural Review of NHMRC's Grant Program
Public consultation

The NHMRC will consider submissions that address the consultation questions and use the template provided. The consultation questions are listed below for each of the three models canvassed in the discussion paper, with a general question at the end of this template. You may answer as many of the questions as you wish. The questions can also be found on page 22 of the consultation paper.

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Alternative model 1

Refer to information about alternative model 1 in the consultation paper and respond to the consultation questions below.

Question 1.1:
How effectively would the model optimise NHMRC's public investment in health and medical research by meeting the aims of this Review, including the major objectives of NHMRC's grant program found on page 12 of the consultation paper? (500 words max)

Encourage excellent, innovative research: The proposed Team Grants, like the current Program Grant scheme, provide longer, larger grants to collaborative research teams based on track record and a broad program of research. The longer timeframes of these grants provides researchers with greater flexibility to pursue novel lines of inquiry and to undertake more innovative research. The awarding of these grants based on track record and a broad research outline (rather than a detailed project outline) prevents the current more conservative approach of the Project Grant scheme where researchers are expected to provide significant amounts of preliminary data and are more likely to outline more conservative research plans in order to be competitive for funding.

Reduce administrative burden: The longer, larger grants for teams of researchers, together with the reduction in the number of applications/grants allowed per researcher, would be expected to reduce the administration burden on researchers and the peer review system.

Research breadth: More information is required on how clinical trials and health services/public health research would be supported through this model. Unlike model two, there are no separate funding streams for clinical or cross-discipline research.

As model one is targeted at top-performing CIs, we believe it could favour particular disciplines and types of research, particularly biomedical research as opposed to public health research (which leans towards larger, multidisciplinary teams) and health services research. Clinician researchers with a clinical load can also struggle to compete with full-time researchers in the NHMRC system, which doesn't deal with this well enough through the 'relative to opportunity' scoring method.

Research translation: According to the consultation paper, support for partnerships, commercialisation, translation and implementation is common to all three models. However, model one doesn't outline how this will be incorporated. That aside, the current Program Grant scheme is a strong driver of translation, and the proposed Team Grants would be expected to be similarly effective.

Support collaboration and partnerships: While the requirement for collaborative teams for all Team Grants might appear to encourage collaboration, the collaborative 'team' whose track record is most competitive is not necessarily the best team for the research. Requiring high performing teams to 'lock' into a five-year grant is not necessarily the best way to encourage true collaboration.

National researcher capability: The Team Grants are not appropriate for those researchers in cross-disciplinary fields (e.g. biostatistics, health economics) who are involved in many collaborations. The Investigator Grants of model two are more appropriate for such researchers, as they don't 'lock' them into a single major collaborative team. It will be important to have Associate Investigator roles (or equivalent) for Ideas Grants, so that highly collaborative researchers can be on multiple grants without being affected by the application/grant number restrictions for CIs.

There is some concern from early and mid-career researchers (EMCRs) that they would not be competitive for Team Grants compared with more senior research teams (see Q1.2).

Question 1.2:
What advantages and disadvantages of this model do you see for you or your organisation if the model was introduced? (For example, what impact would it have on a researcher at your stage of experience? Would it support research in your research area?) (500 words max)

Independent Research Institutes Infrastructure Support Scheme (IRIISS): None of the models indicate whether there will be continued support for the Independent Research Institutes Infrastructure Support Scheme (IRIISS). For many medical research Institutes (MRIs), funding for the indirect costs of research associated with NHMRC grants is provided through IRIISS. Unfortunately the level of funding provided through IRIISS is inadequate and at a lower rate than that provided to universities through the Research Block Grants (RBGs). Importantly, the capped-nature of IRIISS funding has meant that with the increasing success of MRIs in securing competitive NHMRC funding, the rate of IRIISS funding has decreased from 20 cents per dollar of NHMRC grants to 18 cents per dollar in 2016. This reduction in NHMRC funding rate threatens the sustainability and outcomes of MRIs.

We recommend that the NHMRC increases its support through IRIISS to the same level of support provided to universities through the RBGs.

Researcher career stability and institutional risk: Longer grants provide improved career stability for CIs and their research teams while they are on the grant. However, any consolidation of research funding also increases the risk of major funding gaps for the CIs and the institutions that host them. Because each CI can only hold one Team Grant at a time, together with one Ideas Grant, they aren't able to spread their funding (and the risk associated with the grant funding not being renewed) as much as the current system of many relatively small, staggered grants.

In model one, researchers are also restricted in the number of grants they can apply for compared to the current system. While this would decrease the administrative/peer review burden associated with more grant applications, it does arguably (due to a certain level of randomness in the peer review system) increase the risk of not being funded.

This is not to suggest that a model with fewer, larger grants and a reduced number of applications is not a good idea. However, the increased risk to CIs and institutions is something to consider when finalising the details of any model. It also emphasises the importance of Ideas Grants as an alternative funding stream that potentially reduces/spreads this risk.

Early and mid-career researcher support: Presumably the requirement of model one to include an early and mid-career researcher on all Team Grants is to help support researchers at these career stages. However, an issue with this approach is that EMCRs are more likely to change laboratories/supervisors, research direction or partners in the earlier stages of their careers. A collaborative grant does not provide the same level of flexibility as a single investigator grant. There is also some concern from mid-career researchers that they would not be competitive for Team Grants compared with teams including well-established researchers, although they would still be eligible to apply for Ideas Grants.

We support the alternative approach to supporting EMCRs of model two, which provides various tiers of Investigator Grants at different career stages.

Question 1.3:
Can you identify negative consequences for Australia's health and medical research system if the model was introduced and how might these be mitigated? (500 words max)

Cross-disciplinary research: As mentioned above, there is some concern that the limitation on the number of grants that can be applied for and held as a CI could affect researchers who work across disciplines in areas such as biostatistics and bioinformatics. Such cross-disciplinary research is becoming increasingly important for new advances in health and medical research. It will be important that these researchers can be AIs on multiple grants, and that this change in role on grants does not affect their career progression.

Translation: As mentioned above, it is not clear how support for commercialisation, translation and implementation within model one will be achieved. This model also does not specifically address support for clinical trials. This is a significant area of importance nationally and should be clearly included as part of any model moving forward.

Public health/health services/clinical research: As outlined above, this model could favour particular disciplines and types of research, particularly biomedical research as opposed to public health research (which leans towards larger, multidisciplinary teams), health services research and clinical research. Such research was identified by the McKeon Review as a priority, and is critical both to our institute, and to the healthcare system in informing policy, assisting in developing best-practice clinical guidelines, facilitating education programs, and providing credible health information for the community, including the role of lifestyle in preventing and treating disease.

In any model moving forward, we recommend a separate stream or scheme for health services/public health research and clinician researchers. A separate program is also recommended for clinical trials grants to ensure that funding is maintained at a sustainable level.

How might these issues be mitigated?

As outlined above, certain features of model one could have a positive effect on the NHMRC's investment in health and medical research, while other features could be detrimental.

Baker IDI supports a model that combines components of model one and model two, mitigating issues around inflexibility, requirements for collaborative teams, and approach to the support for EMCRs of model one (see Q1.4).

As outlined in the hybrid model at Q1.4, this should include separate streams for clinical trials incorporating a different set of assessment criteria that recognises both the quality of the research

proposal, as well as the capacity to deliver on it. There should also be a dedicated stream for public health and health services research, to which a quantum of funding commensurate with existing support for public health and health services research is allocated.

Question 1.4:
Could the model be adjusted to optimise its impact? If so, how? (500 words max)

This model could be optimised by combining elements of models one and two.

Key features of the hybrid model would include:

- **Team Grants** (hybrid of Team Grants and Investigator Grants of models one and two):
  - Provides five years' support to a top-performing researcher (i.e. single CI grant, akin to Investigator Grants of model two) or a collaborative team of researchers (i.e. multiple CIs, akin to Team Grants of model one) and their research team(s), with applications assessed primarily on track record and a broad research outline.
  - Streams for different career stages, with different funding ranges taking into account the researcher's experience and area of research (akin to model two Investigator Grants)
  - For a collaborative team grant, all CIs would be considered equal on the application (model one Team Grants)
  - Each CI can only hold one such grant
  - One application per CI per round
  - No limit to the number of applications or grants for which a researcher is named an AI
  - Fellowships are an option and additional to the quanta for individuals on the grant.
- **Ideas Grants:** As outlined in models one and two
- **Separate funding stream for clinical trials and cohort studies** incorporating a different set of assessment criteria that recognises both the quality of the research proposal, as well as the capacity to deliver on it
- **Dedicated stream for public health and health services research** to which a quantum of funding commensurate with existing support for public health and health services research is allocated
- No People Support Grants (removed from model one)
- No Collaborative Bonus (removed from model one).

Question 1.5:
Do you have other comments about the model? (500 words max)

There is concern about the process for transition to this or any other model, with a need for safety nets to ensure that top performing teams and researchers are not lost from the system. Institutes like ours would be forced to rely heavily on discretionary funds to prevent the loss of research teams during the transition period. This does not appear to be an issue that has been considered in the development of the consultation paper at this stage.

Clearly modelling of the effects of any future models on a whole range of factors, including researcher jobs and institution financial stability, will be key in the development of any future model.

Alternative model 2

Refer to information about alternative model 2 in the consultation paper and respond to the consultation questions below.

Question 2.1:
How effectively would the model optimise NHMRC's public investment in health and medical research by meeting the aims of this Review, including the major objectives of NHMRC's grant program found on page 12 of the consultation paper? (500 words max)

Encourage excellent, innovative research: As with model one, the longer time frames and larger sizes of the Investigator Grants provide researchers with greater flexibility to pursue novel lines of inquiry and to undertake more innovative research, while the awarding of these grants based on track record and a broad research outline prevents the current more conservative approach of the Project Grant scheme where researchers are expected to provide significant amounts of preliminary data and are more likely to outline more conservative research plans in order to be competitive for funding.

Reduce administrative burden: As with model one, the longer, larger Investigator Grants for CIs and their teams, together with the reduction in the number of applications/grants allowed per CI for the Investigator Grants and Ideas Grants would be expected to reduce the administration burden on researchers and the peer review system.

Research breadth: Again, as this model is targeted at top-performing CIs, we believe it could favour particular disciplines and types of research, particularly biomedical research as opposed to public health research (which leans towards larger, multidisciplinary teams) and health services research. Clinician researchers with a clinical load can also struggle to compete with full-time researchers in the current NHMRC system. More information is required on how clinical trials and health services/public health research would be supported. It is also not clear how the cross-discipline and clinical streams of Investigator Grants would intersect with the other Investigator Grant streams based on career stage (e.g. are there multiple career stages levels for the cross-discipline and clinical streams?).

Research translation: As with model one, according to the consultation paper, support for partnerships, commercialisation, translation and implementation is common to all three models. However, unlike model three, model two does not outline how this will be incorporated into the grant programs.

Support collaboration and partnerships: There is very little detail about how the collaboration bonus would work, whether it would include collaboration between disciplines, institutions, with industry and/or international partners, and how it would intersect with the cross-discipline stream of the Investigator Grants. We suggest that collaborative teams be supported by merging the Investigator Grant scheme of model two with the Team Grant scheme of model one (see Qu 1.4).

National researcher capability: Importantly, the Investigator Grants of model two provide improved flexibility compared with the Team Grants of model one for researchers in cross-disciplinary fields (e.g. biostatistics, health economics) who may be involved in many collaborations. However, for such researchers who are not successful in securing an Investigator Grant, it will be important to have AI roles (or equivalent) that can be on multiple Ideas Grants, so that cross-disciplinary researchers are not affected by the application/grant number restrictions for CIs.

Question 2.2:
What advantages and disadvantages of this model do you see for you or your organisation if the model was introduced? (For example, what impact would it have on a researcher at your stage of experience? Would it support research in your research area?) (500 words max)

Independent Research Institutes Infrastructure Support Scheme (IRIISS): As outlined in Q1.2, we hold concerns about the lack of any mention of IRIISS funding in any of the proposed models.

Researcher career stability and institutional risk: As outlined in Q1.2 for model one, the larger and longer grants of model two compared to the current system provide improved career stability for CIs and their research teams while on a grant, but there is an increased risk of funding gaps, both at the researcher and institution level, due to the caps on application numbers, and the fewer and larger grants held at any one time.

Early and mid-career researcher support: In terms of supporting EMCRs, we prefer the different career stage 'streams' approach of model two over the Team Grants approach of model one, which requires an EMCR on every Team Grant. Model two does not force EMCRs prematurely into large collaborative teams, and alleviates concerns from mid-career researchers that they would not being competitive for Team Grants. It also allows EMCRs/researchers who do not wish to become an independent lab head, or who are not competitive for an Investigator Grant, to be supported through a supervisor's Investigator Grant or through their own Ideas Grant.

One important concern is that the limitation of Ideas Grants in model two to researchers above 'postdoctoral level'. What this means and why this restriction is included is not clear.

Question 2.3:
Can you identify negative consequences for Australia's health and medical research system if the model was introduced and how might these be mitigated? (500 words max)

Cross-disciplinary research: As outlined above, there is some concern that the limitation on the number of Ideas Grants that can be applied for and held as a CI could affect researchers who work across disciplines in areas such as biostatistics and bioinformatics, and who are not competitive for an Investigator Grant. Such cross-disciplinary research is becoming increasingly important for new advances in health and medical research. It will be important that these researchers can be AIs on multiple grants, and that this change in role on grants does not affect their career progression.

Translation: As for model one, it is not clear how support for commercialisation, translation and implementation within model two will be achieved. This model also does not specifically address support for clinical trials. This is a significant area of importance nationally and should be clearly addressed as part of any model moving forward.

Public health/health services/clinical research: As with model one, model two could favour particular disciplines and types of research, particularly biomedical research as opposed to public health research, health services research and clinical research. Such research was identified by the McKeon Review as a priority, and is critical both to our institute, and to the healthcare system in informing policy, assisting in developing best-practice clinical guidelines, facilitating education programs, and providing credible health information for the community, including the role of lifestyle in preventing and treating disease.

How might these issues be mitigated?

Baker IDI supports a model that combines models one and two, mitigating issues with the 'collaborative bonus' of model two, while better supporting clinical trials and health services/public health research (see Q1.4).

As outlined in the hybrid model at Q1.4, this should include separate streams for clinical trials incorporating a different set of assessment criteria that recognises both the quality of the research proposal, as well as the capacity to deliver on it. There should also be a dedicated stream for public health and health services research, to which a quantum of funding commensurate with existing support for public health and health services research is allocated.

Question 2.4:
Could the model be adjusted to optimise its impact? If so, how? (500 words max)

See response to Q1.4, which briefly outlines a proposed hybrid of models one and two.

Question 2.5:
Do you have other comments about the model? (500 words max)

See response to Q1.5 with regards to lack of detail around a transition process.

Alternative model 3

Refer to information about alternative model 3 in the consultation paper and respond to the consultation questions *below.*

Question 3.1:
How effectively would the model optimise NHMRC's public investment in health and medical research by meeting the aims of this Review, including the major objectives of NHMRC's grant program found on page 12 of the consultation paper? (500 words max)

Model three is the closest of the proposed models to the current Project Grant system. Unlike the Team Grants and Investigator Grants of models one and two, model three's Research Support Grants are assessed based on a detailed research proposal (major weighting), rather than an overarching research program. As such, it does not provide the same level of flexibility to pursue innovative research within an overarching program, and it continues to promote conservatism in order to be competitive.

We believe the NHMRC structural review is an opportunity for transformational change, and this model does not sufficiently address the current issues outlined in the consultation paper.

Encourage excellent, innovative research: Under this model, the requirement for a research proposal is likely to require significant preliminary data, which can stifle innovation and is not radically different from the current NHMRC Project Grants. We also feel strongly that the tight limits attached to grants, restricting top researchers to one application per annum and a maximum of two grants, will pave the way for lower quality grants from previously uncompetitive investigators to be successful. Furthermore, we don't believe blue sky research would have a chance of being funded under this system, whereas elements of blue sky/higher risk research are possible under models one and two.

Reduce administrative burden: The cap on the number of applications/grants per CI would reduce the administration burden on researchers and the peer review system.

Research breadth: Again, more information is required on how clinical trials and health services/public health research would be supported through this model. Unlike model two, there are no separate funding streams for clinical and cross-disciplinary research.

Research translation: It is pleasing to see a focus on research translation through the inclusion of commercial and implementation grant sub-types in this model, although it is not clear why they are included here and not the other two models.

Support collaboration and partnerships: This model would allow collaboration without having to require or 'force' it (as is the case in model one). However, the reduced flexibility of grants in this model compared with the research program/track record-based grants of models one and two would not support organic collaborations to the same degree. Also, unlike models one and two, this model does not include a collaborative grant component.

National researcher capability: The different grant streams in model one for new investigators and established researchers would help support different career stages.

Question 3.2:
What advantages and disadvantages of this model do you see for you or your organisation if the model was introduced? (For example, what impact would it have on a researcher at your stage of experience? Would it support research in your research area?) (500 words max)

It is acknowledged that the current NHMRC system means that researchers spend a substantial period each year preparing grant applications that will not be funded, or seeking funding for 'safe' research. Many of our senior scientists also devote considerable time to the peer review process.

One of the main disadvantages we see with this model is that it does not go far enough to deliver significant change and address the issues facing the sector. Our fear is that the low morale that currently exists amongst Australian scientists will be further compounded if key funding bodies like the NHMRC do not introduce fundamental changes. This means that organisations like ours stand to lose top performing researchers to international research organisations and to other careers at a much faster rate than is already happening. Recruitment and retention of staff is already a sticking point for MRIs like ours and it is imperative that any funding model introduced by the NHMRC strives for as level a playing field as possible if we want to see research being conducted in diverse environments in the long term.

In this model, it is unclear how the grant funding would be disbursed across the different career stages, creating uncertainty when it comes to workplace planning and potentially limiting the ability to attract and provide opportunities for researchers at all career stages. Attracting high quality students and recruiting and retaining high quality early to mid-career scientists, particularly females, are already issues that we are grappling with as an institute. We require a model that explicitly addresses these issues; otherwise we fear we will see no improvements in these areas.

The inclusion of knowledge creation and translation sub-types in this model is an advantage. This was not adequately addressed in models one and two, particularly given that improved research translation is one of the key aims outlined in this review, and the current system provides little time or scope for researchers to pursue these opportunities. Commercialisation and translation

are extremely important to our organisation, with Baker IDI's research strategy firmly focussed on specific and achievable five-year targets with regards to commercial outputs, policy advances and healthcare breakthroughs. The Institute's strong translation focus, which forms the cornerstone of Baker IDI's Strategic Plan, has enabled us to leverage considerable philanthropic support. As well as doing everything that we can as an organisation to support and foster knowledge creation and translation, it is critical for MRIs like ours that other funders and supporters also explicitly support this. As in model three, this is a feature that should be incorporated into any final model moving forward.

Question 3.3:
Can you identify negative consequences for Australia's health and medical research system if the model was introduced and how might these be mitigated? (500 words max)

We think that the broad disenchantment that currently exists within the health and medical research sector nationally would be further compounded if this model, which we believe contains less flexibility and simplicity than models one and two, were introduced. As a result, we believe highly talented scientists would be lost, which would significantly impact Australia's global reputation in health and medical research during the coming decades. This would have broad-ranging implications limiting research opportunities nationally, which could lead to a shortage of skilled scientists, a less diverse research sector, significant loss of export revenue from the biotechnology industry, and a reduction in healthcare standards across the country.

A hybrid model (combining models one and two) that delivers radical change is recommended in order to improve innovation in the sector, to boost morale, to foster continued private investment in the country's medical research and biotechnology sector, to maintain the country's high healthcare standards, and to maintain a high quality research and healthcare workforce. A translation scheme based on model three should also be incorporated into the hybrid model to ensure there is funding and capacity for researchers to investigate, develop and foster meaningful collaborations and translation partnerships. This may also help to leverage non-government funding, which is critical in sustaining a diverse research landscape.

Question 3.4:
Could the model be adjusted to optimise its impact? If so, how? (500 words max)

We don't believe there are enough salient features of this model to warrant exploring this as a potential model moving forward. Unlike models one and two, it does not have the potential to deliver the necessary changes required to make the grant funding system more flexible, to foster innovative research, and to assist in the recruitment and retention of the most talented researchers.

We believe a bold proposal for change is required to effectively tackle the systemic issues that exist. That is why we are supporting a hybrid version of models one and two.

Question 3.5: Do you have other comments about the model? (500 words max)
No.

General

Question 4: Do you have comments on the other issues discussed in this paper? (500 words max)
Increased risk of new models and the transition period: The increased risk of funding gaps for the models proposed by the NHMRC will have an impact both on the institutions that employ the researchers, as well as the researchers themselves. When researchers don't have grants for a period, it is the institutions that must support them. The impact on research institutions, particularly during the transition period, is likely to be substantial. Extensive modelling of any future model, particularly of the transition period, will be crucial to minimise risk to researchers and institutions, and to preserve the breadth of research institutions across the sector. **Indirect costs of research:** None of the models discuss the indirect costs of research. Whilst it is assumed that IRIISS funding will be maintained, this funding has become increasingly inadequate (having fallen further to 18 cents per NHMRC grant dollar), and will place increasing strain on MRIs. In addition, MRIs and universities don't know if the indirect costs associated with the MRFF, (which will be rolled out during the transition to the new NHMRC model) will be funded. This potential gap in indirect cost funding during the financially difficult time of NHMRC system transition is an absolutely critical issue that could have irreversible repercussions for the long-term outlook of MRIs, universities and hospital-based research. **MRFF**: The scope of this review makes clear that it will not consider the effects of the MRFF. However, it would be remiss not to consider accommodating future changes in the sector in any NHMRC model. We feel strongly about the need to build flexibility into the programs to enable the NHMRC to respond to the MRFF, particularly as the fund is likely to have a significant impacts within the next four years. **Partnerships, commercialisation and translation:** The three models presented are strongly focussed on biomedical research, and more consideration should be given to support for the translation of this research into clinical, commercial and policy outcomes. We believe models one and two do not offer enough detail around support for partnerships, commercialisation, translation and implementation. **Leverage of non-government funding:** More consideration should be given to leveraging non-government funding. A revised model with a framework that facilitates this is critical. **Overseas investigators:** Recruiting senior investigators from overseas is a significant issue facing MRIs with such investigators not eligible for NHMRC funding for the first several years. Funding

these researchers is a significant financial burden that has not been addressed in the models proposed.

Aboriginal health research: The continued commitment of five per cent of the MREA to Aboriginal and Torres Strait Islander research and capacity building is not sufficient. There is a critical need for more evidence-based research and education that the health and medical research sector can deliver.