

# Structural Review of NHMRC's Grant Program

## Public consultation

### Template for written submissions

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.

<b>Name:</b>	Dr Matthew Miles
<b>Organisation name:</b> <i>[if submitting on behalf of an organisation]</i>	Multiple Sclerosis (MS) Research Australia
<b>Email address:</b>	mmiles@msra.org.au

### 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)

#### **Reducing the Burden of the Grants Process**

The limits placed on the number of applications in model 1 will reduce the burden of writing grants and also reduce the burden of grant reviewing. Additionally, as people will be submitting applications as teams, model 1 is likely to result in the lowest number of applications in total.

#### **Encouraging Creativity and Innovation**

In terms of encouraging greater creativity and innovation, model 1 de-couples the funding of teams (through the Team Grant) from the stringent results based processes of the current grant schemes. This will allow researchers more flexibility to follow-up promising results as soon as they are identified and lead to better, faster research outcomes overall. This would be a significant improvement on the current prescription timescales of the current reporting system.

The separation of Ideas Grants in this model means that less established researchers still have capacity to build and develop their ideas and findings on a smaller scale.

However, the forced reduction in application numbers, is likely to result in researchers only submitting safer, more 'fundable' applications at the expense of creative or innovation research. This might be slightly offset but the decoupling of project funding from personnel funding, allowing researchers more flexibility and allowing the generation of pilot data, which possibly offsets the conservatism, which limiting the grants may induce.

Of the proposed models, we feel model 1 represents the best chance of achieving this objective of reducing the burden of the grants process.

#### **General NHMRC Objectives**

We feel that model 1 also best addresses the NHMRC objectives of *providing opportunities for talented researchers across career stages, providing flexibility, fostering collaborations and partnerships and supporting excellence in Australian health and medical research.*

Team grants allows researchers from across the career spectrum to be involved in high quality research programs and provides stability for groups of people to achieve research objectives together. Through the requirement to include people from different levels, model 1 also likely to build capacity, in that developing researchers must be included and involved at the planning stages of a research program. If done correctly model 1 should be protective of early stage researchers and increase mentoring in the sector as the people within the teams will become a focus for future development.

Teams themselves, rather than single investigators, provide more flexibility to respond to different research outcomes and any changes in the research direction that may result from unexpected results or new collaboration opportunities. If teams are required or encouraged to have a selection of expert personnel from clinical/allied health spheres, technical specialists, subject matter experts, as well as a range of career stages, then the team structure is likely to facilitate the best outcomes for patients and healthcare in a changing environment.

Flexibility is enhanced in model 1 through the inclusion of people grants as these will provide dedicated funding for individual support without the requirement to be selected for a team.

Flexibility may also be defined as space for people to work outside of research while maintaining a research interest. There is a critical requirement for clinician/researchers and researcher/educators to exist within the system to boost research capacity, bring ideas from the clinic to the research space and foster the next generation of researchers through excellence in education. Model 1, with its team structure, is likely to be the most successful at providing flexible funding to these types of researchers.

### **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)

#### **Impact to MS Research Australia Funding Model (and other similar medical research funding bodies)**

Model 1 provides the most flexibility in terms of grants for ideas, salary and basic funding and can be awarded across the spectrum of people (within the team grants) and research ideas (with the ideas grants). Therefore, this model is likely to result in the most opportunities to leverage off and attract funding from other independent funders such as MS Research Australia. It also provides scope for partnering or co-funding of research teams or ideas (e.g. to supplement the team grant with salaries for Fellows, or partner on certain aspects of the project).

#### **Impact to MS Researchers**

Overall, model 1 is the best option for funding of researchers across the spectrum of their careers, and across different types of research (i.e. as the only model which expressly includes people grants). This means it is the model most likely to keep people working within medical research and develop successful research careers within Australia.

#### **Impact to MS Research Generally**

*We feel that MS research generally would be best served by a model which aims to increase collaboration and partnering, increase capacity and capability, de-risks innovative research and increases translation of research findings to the clinic.*

Through the inclusion of Team Grants, model 1 offers the most scope for built-in collaboration and partnering and encourages capacity building. However, teams must be flexible, in that people must be able to switch in and out, in order to be responsive to changing research needs or team requirements. If switching is not permitted, this may inhibit relevant collaboration at key points in the research process.

The inclusion of cross-disciplinary researchers within the teams must be specified to encourage their involvement right from the early planning stages to enhance the potential for translation. The lack of translation features of this model, including the absence of incentives favouring commercialisation and partnering with other organisations to implement translation effectively, are a disadvantage of this model.

The separation of ideas into the Ideas Grants and providing basic funding through the Team Grants also “de-risks” innovative research that may not be funded under the current system.

**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)

- If the teams are static for the entire funding period, this may block movement of researchers into and out of teams and the flexibility of teams to respond to the changing needs of the research process. This could be mitigated by ensuring that flexibility within teams is permitted.
- Mid-career researchers may find it difficult to form new groups and progress up the career ladder, as their previous contributions may be contributed to the team and therefore they may not gain the reputation, recognition nor extensive professional networks to create new teams.
- The team requirement “by type” or career stage, may result in the inclusion of people who fit the profile, but who are not the best choice for the research being undertaken. This could be mitigated by ensuring that requirements for team membership are not unduly prescriptive for Team Grants.
- The model mentions career stage as a requirement for inclusion on the team, but does not seek to ensure the inclusion of other types of researchers by placing requirements on other social inclusion measures (e.g. gender ratios), or cross-disciplinary measures (clinical/basic).
- It’s possible that the tight restrictions on the number of grants that investigators can hold/be involved in may end up constraining scope for collaboration by limiting the number of collaborative projects or teams that an individual can contribute to.

**Question 1.4:**

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

There are a few modifications that would improve model 1.

- Addition of a mechanism to improve translation of research. Including consideration of the commercialisation pathway and partnering with other organisations to implement translation effectively.
- While the inclusion of the requirement for people from different career stages is welcomed, if this is too prescriptive, it may also stop relevant team members being included. Conversely, researchers that “fit the profile” of the required team structure may be included when they are not the best person for the job.

- Incorporation of a requirement for people on team grants to be selected from across different disciplines as well as different career stages, this will need to be flexible enough to ensure that relevant team members can still be selected.

**Question 1.5:**

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

## 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)

**Reducing the Burden of the Grants Process**

Due to the limitations placed on application numbers, model 2 will also reduce the burden of grant application and review.

**Encouraging Creativity and Innovation**

In terms of encouraging greater creativity and innovation, model 2 allows the decoupling of research funding of individuals (through the Investigator Grant) from the stringent results based processes of the current grant schemes, this will allow researchers more flexibility to follow-up promising results as they are identified and lead to better, faster research outcomes overall. The separation of Ideas Grants in this model means that less established researchers still have capacity to build and develop their ideas and findings on a smaller scale. However, the reduction in application numbers is likely to have the unwanted side-effect that applicants will only try and secure funding for safer, more 'fundable' research at the expense of more creative and innovative research.

**General NHMRC Objectives**

We feel that model 2 somewhat addresses the NHMRC objectives of *providing opportunities for talented researchers across career stages, providing flexibility, fostering collaborations and partnerships and supporting excellence in Australian health and medical research.*

Model 2 is likely to provide opportunities for researchers to obtain funding and supporting excellence in research, but the maintenance of the career stage streams within the Investigator Grants will be crucial to ensure that funding is equitably distributed to those deserving researchers across different career stages. The inclusion of these streams is essential to ensure that elitism is combatted, funding assessments and grants need to be awarded relative to opportunity in competition with peers rather than across the board. Employing streams is the only protection for researchers who are at earlier stages in their careers or who have experienced career interruptions. Researchers who do not fit into a dedicated stream under model 2 would not be as protected as they might be under model 1. Also it is important to consider the contribution of clinician/researchers, researcher/educators as well as more collaborative based researchers such as bioinformaticians who might not fit into the tradition streams and maybe at a disadvantage when applying for individual funding.

The collaborative bonus in model 2 will hopefully encourage and boost collaboration and partnerships within the research community, however as it is a bonus and not a requirement, it is unlikely, unless the funding difference is substantial, to be as effective as requiring team involvement in research such as that outlined in model 1.

**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)

**Impact to MS Research Australia Funding Model (and other similar medical research funding bodies)**

Model 2 provides some flexibility in terms of grants for ideas and basic funding and can be awarded across the spectrum of people (within the streams) and research ideas (with the ideas grants). The ability to include salaries in the other grant types is welcomed, but without the inclusion of people grants (from model 1) in this model, it is likely that the number of fellowship applications which require processing as well as the overall number of fellowships ultimately funded from other funders such as MS Research Australia would be increased.

**Impact to MS Researchers**

If model 2 is implemented in an ideal situation, team leaders would naturally mentor and help staff develop at earlier stages of their careers. They would recognise and acknowledge the contribution of all staff to a particular research focus and include the correct people in grant applications, and therefore there would not be a great deal of difference between model 1 and model 2. Both models would be capable of funding researchers across the spectrum of their careers, and across different types of research. In a less than ideal world, and unless the criteria were to be permissive for inclusion in the streams, model 2 would be more likely to focus on specific individuals and foster elitism within the system. It may also result in exploitation of junior staff, who are unable to secure their own funding, and therefore reliant on a senior individual for funding, and hence beholden to the senior individual. This may mean that the dropout rate of early career researchers will continue, and reduce the workforce for excellent medical research in this country.

**Impact to MS Research Generally**

*We feel that MS research generally would be best served by a model which aims to increase collaboration and partnering, increase capacity and capability, de-risks innovative research and increases translation of research findings to the clinic.*

As mentioned, if implemented well and the collaborative bonus is a true drawcard, model 2 may be as capable as model 1 of boosting collaboration and partnering through its collaborative bonus.

The inclusion of well thought out streams and adherence to targets for each stream will allow capacity building to occur in MS research.

The separation of ideas into the Ideas Grants and providing basic funding through the Investigator Grants also de-risks innovative research, which may not be funded under the current system.

The absence of the translational research features included in model 3, including consideration of the commercialisation pathway and partnering with other organisations to implement translation effectively, are a disadvantage of this model.

**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)

- The main potentially negative consequence for model 2 is the possibility of elitism within the funding structure. This could be mitigated by including more balanced requirements for assessment within this model.

**Question 2.4:**

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

There are a few modifications that would improve model 2.

- Addition of a mechanism to improve translation of research such as that included in model 3, including consideration of the commercialisation pathway and partnering with other organisations to implement translation effectively.
- Incorporation of a requirement for balance and special attention to the streams for investigator grants to ensure that elitism does not become an issue under this system.
- Appropriate and careful consideration of career disruptions, and new methods to measure productivity and track record could also help the retention and development of early to mid career researchers in this model.

**Question 2.5:**

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

### 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)

**Reducing the Burden of the Grants Process**

Due to the limitations placed on application numbers, model 3 will reduce the burden of grant application and review compared to the current system, however, of the three models, we feel this will be the least effective in reducing the burden of applications.

**Encouraging Creativity and Innovation**

In terms of encouraging greater creativity and innovation, model 3 does not decouple the research progress of particular projects from funding. The adherence to a "framework of milestones" is the most stringent of the three models and will most resemble the current funding situation, which is not flexible in the face of unexpected results or new opportunities and does not provide space for researchers to develop and follow up new ideas. There is no special funding consideration given to creative or innovative research ideas, which means that safer applications will be more likely to be submitted and favourably assessed under this scheme. Additionally, given the competitive nature

of these grants, excessive preliminary data maybe required, meaning applicants are in effect applying for retrospective funding for projects, as only projects which are a forgone conclusion will be funded.

### **General NHMRC Objectives**

We feel that model 3 least addresses the NHMRC objectives *of providing opportunities for talented researchers across career stages, providing flexibility, fostering collaborations and partnerships and supporting excellence in Australian health and medical research.*

Under research support, without the pre-specification of particular researcher streams, it may not be as successful as the other models at providing talented researchers across career stages with funding opportunities. People who are not as competitive in the broader categories of “standard” and “new investigator” risk being left behind in this model. This model will not produce a stable career path for researchers, as it will create funding gaps through which talented researchers may fall. This is will have a detrimental effect on the NHMRC’s aim to fund excellence in Australian health and medical research.

As above, flexibility is reduced in model 3, as the personnel funding, which is separately provided under team grants and investigator grants is missing under this model, is intrinsically linked to the project funding. Furthermore, collaboration and partnering is not rewarded under this system, through the criteria of award or through bonuses to funding.

### **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)

#### **Impact to MS Research Australia Funding Model (and other similar medical research funding bodies)**

Model 3 provides the least flexibility in terms of grants for new ideas. It also provides the least flexibility in how funding can be awarded across the range of people and the spectrum of research ideas. Without the inclusion of people grants (from model 1) or ideas grants (from model 1 and model 2) in this model, it is likely that the number of fellowship and project applications which require processing will increase, and the overall level of funding to fellowships and projects will also need to increase from independent funders such as MS Research Australia.

#### **Impact to MS Researchers**

Under model 3, without the pre-specification of particular researcher streams, it may not be as successful as the other models at providing talented researchers across career stages with funding opportunities. People who are not as competitive in the broader categories of “standard” and “new investigator” risk being left behind in this model and will dropout of the research workforce. This might particularly be the case for atypical researcher types, such as bioinformaticians. Or those in fields with longer lead times for publication – unless a new model for assessing productivity, excellence and track record can be established.

This model will also favour larger established well connected groups, making funding more difficult for newer smaller groups, unless there is careful management of assessment criteria, with a particular focus on the weighting given to track record in the assessment.

#### **Impact to MS Research Generally**

*We feel that MS research generally would be best served by a model which aims to increase collaboration and partnering, increase capacity and capability, de-risks innovative research and increases translation of research findings to the clinic.*

Without a formal requirement or bonuses for collaboration and partnerships, there is no incentive under this model to form new or productive collaborations which we know increases the chance of successful research outcomes and research translation.

The lack of specific people grants or the protection provided by teams for early career or other vulnerable researchers means that model 3 will not provide a mechanism for capacity building to the same level as the other models. This will reduce the diversity and capability of the MS research workforce (and the research workforce generally). While personnel changes may be easier under this model, this model is the most problematic for providing opportunities for building up a researchers' own ideas within the system.

Model 3 will promote conservatism in applications and therefore the award of grants. This will lead to a reduction of funding of innovative research within the system. Researchers are also tied to projects and there is no basic funding to underwrite a research team without being beholden to the strict reporting framework of these grants. This will reduce people's ability to spend time developing new research ideas, contributing to new collaborations, or moving away from those set out at the start of a funding period.

Model 3 is the most focused on translational research, which is a key objective to achieving real outcomes for patients. The specification of a "translation subtype" can only boost research in this relatively under-funded area. In particular, the partnering feature of the implementation stage would provide an opportunity for independent funders such as MS Research Australia to become more involved in this space. The requirement for planning of a commercialisation pathway at the outset of a grant (as specified under the commercialisation subtype) would lead to better outcomes in the this notoriously difficult space.

**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)

- No formal incentive for collaboration and partnerships, which could be mitigated by including such incentives in criteria for grants.
- Promotion of conservatism in applications and therefore the award of grants. This could be mitigated by the inclusion of streams to reward innovation and creativity.
- No specification of diverse "people streams" coupled with a lack of direct people support for those who are not CIs, means that there is a high proportion of people who would not be competitive under this model and may be lost to research. This could be mitigated by broadening the list of categories for support beyond "new investigator".

**Question 3.4:**

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

See Question 3.3

**Question 3.5:**

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

## General

**Question 4:**

Do you have comments on the other issues discussed in this paper? (500 words max)

**Track Record Assessment**

The inclusion of track record in the assessment criteria is mentioned within all of the suggested models but the relative importance of track record as compared to other assessment criteria is not made clear. Under the current system, the weighting of track record is such that there is little opportunity for earlier career researchers to make an impact without partnering with those with impressive track records. In practice, this leads to those with lesser track records being excluded from being named on grants, further inhibiting their opportunities to develop their track records and become standalone researchers in a competitive environment. Further, the traditional way by which the track records are currently assessed, with a heavy emphasis on traditional publications, does not reward potential productivity and research outcomes which may be recognised in other ways. It also disadvantages researcher/clinicians and researcher/educators whose time is divided and whose research outputs (publications) may be lower, but whose contributions may be more diverse. Therefore, careful consideration must be given to the way that track record is assessed and weighted within the new system, irrespective of the model chosen, to avoid repeating the failures of the current system.

**Promoting Conservatism**

While increasing creativity and flexibility within research is a stated goal of this review, this is in direct competition with the aim to reduce the burden of grant application and review on the research community. Reducing the number of applications permitted by a particular researcher (i.e. holders of a team grant can only apply for and hold one ideas grants under model 1) will push researchers to only put forward their most conservative and “fundable” projects. Without the applications, this in turn will limit the NHMRC’s ability to fulfil its aims to increase creativity and flexibility within research.

**Formal Partnerships with Independent Funding Bodies**

A feature of the current NHMRC system is the ability of independent funders, including MS Research Australia, to partner with the NHMRC to co-fund applicants. This provides the NHMRC with valuable increased funding for particular diseases and allows independent funding bodies to increase funding through the NHMRC for areas of interest to them. At present, applicants are able to select whether they wish to be considered for a co-funding opportunity at the time of application. This feature needs to be included in the granting structure of the new system, irrespective of the model implemented to preserve the advantages to the NHMRC and co-funding partners. Bonuses and incentives for partnering with consumer-focussed organisations will also focus attention on the priorities of consumers and their healthcare providers and on translational research through the involvement of consumers and healthcare practitioners throughout all stages of research, from the laboratory and planning stages, all the way through to implementation.

**Caps on grants**

Careful consideration needs to be given to the capping on grant numbers and the weight given to the percentage of time involvement for investigators, for example, in the team grant model. A

strict capping system may limit the ability of investigators to contribute their expertise to multiple collaborative teams, even where their time contribution to a given team may be only 10%. This could inadvertently limit collaboration rather than encourage it and limit the ability of experts to mentor younger researchers.