

# Guidance for peer reviewers

A detailed guide for reviewers of MRC proposals, including assessment criteria and scoring systems



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## 1. Peer review at the MRC

The MRC improves human health through world-class medical research. We fund research across the biomedical spectrum, from fundamental lab-based science to clinical trials, and in all major disease areas. We are a non-departmental public body funded through the government's science and research budget. We invest in research on behalf of the UK tax payer.

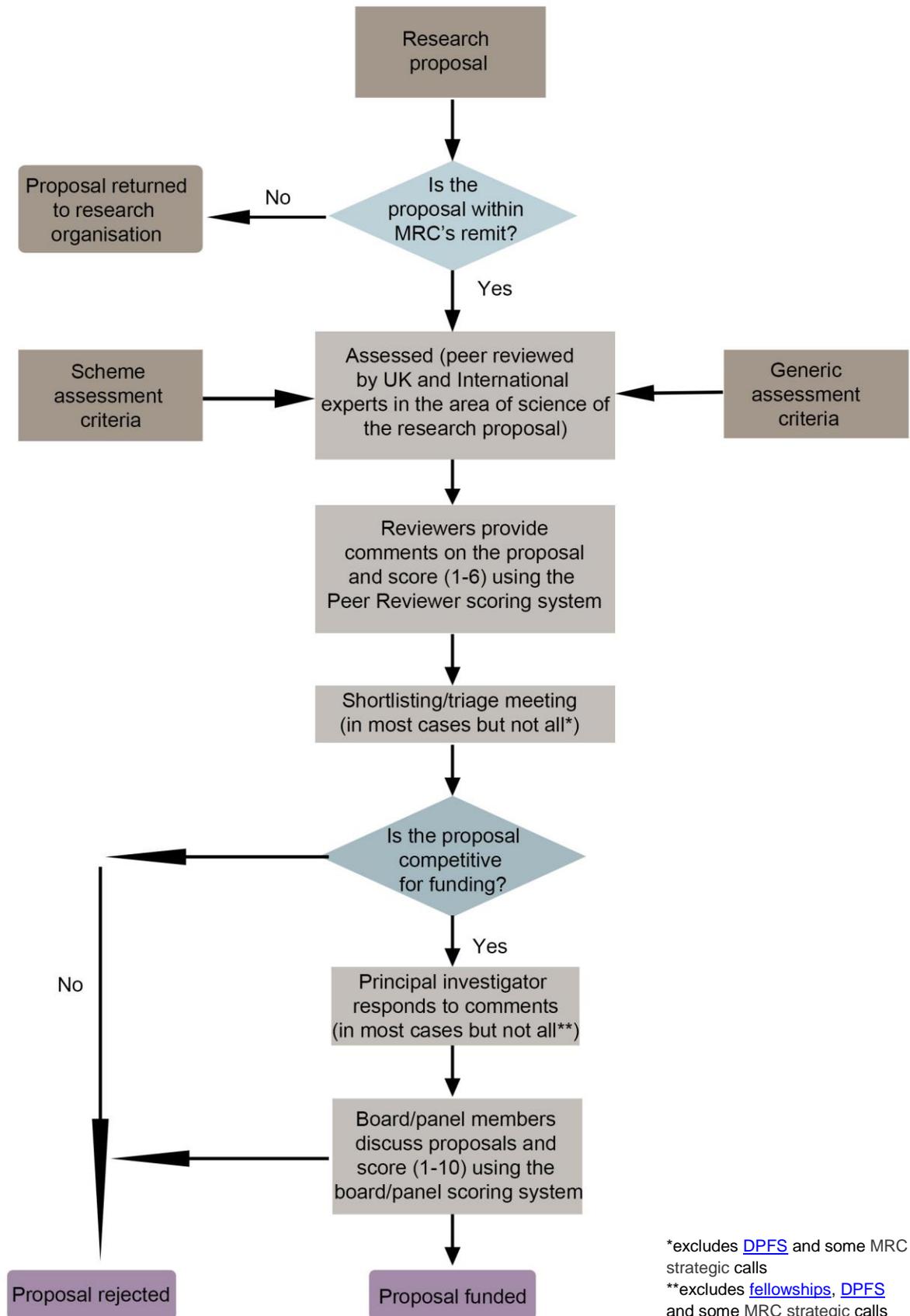
Peer review is the cornerstone of the work of the MRC as a funding organisation. All proposals submitted to us are scrutinised by independent experts who consider the importance, scientific potential and cost-effectiveness of the research concerned. All researchers supported by the MRC are expected to participate in peer review. Our peer review process is confidential to protect proposals and anonymous to support the free and frank exchange of views.

We use a two-stage peer review process for grants and fellowships (Figure 1). In the first stage, at least three reviewers from the UK and overseas provide an expert assessment of the proposal. For the majority of our schemes, reviews are requested and provided through the [Joint electronic Submission](#) (Je-S) system. The second stage is the MRC research board or panel's assessment and funding decision. This usually involves two steps: a sift (triage or shortlisting) to select the most competitive proposals to go through to the next stage, and a meeting where the final funding decision is taken.

The peer review process for MRC centres, units and institutes follows the same principles, with reviewers providing comments, followed by an assessment by one or more of the MRC's boards. If you are asked to review one of these investments MRC will contact you directly and specific guidance will be provided on how to prepare and submit your review.

This guidance is aimed at peer reviewers taking part in the first stage of this process. Board and panel members will be provided with separate guidance.

Figure 1: The MRC's two-stage assessment process



## 2. Principles of peer review at the MRC

Peer review at the MRC is governed by several underlying principles, including those of integrity, confidentiality and anonymity.

### 2.1 Integrity

The integrity of peer review is of paramount importance. This means that any personal interests as a reviewer must never influence, or be seen to influence, the outcome. We consider that a conflict of interest exists where:

- The applicant is a close friend or relative
- You are directly involved in the work the applicant proposes to carry out
- You may benefit financially from the work (for example if you are involved with a company acting as a project partner)
- You work in the same research organisation as the applicant(s), co-applicant(s) or project partners
- You work closely with the applicant(s) (eg as a co-author or PhD supervisor) or have done within the last five years

If you have one of these conflicts of interest you should decline to review the proposal. This list is not exhaustive, so if you consider that you have a conflict of interest you must declare it. If you have been asked to review through Je-S then you should do this by completing the Declarations of Interest section. This will allow us to decide whether your review is eligible. For reviewers invited directly by the MRC, or if you are unsure whether a conflict exists, please email [peer.review@mrc.ukri.org](mailto:peer.review@mrc.ukri.org) to discuss with the board or panel team involved.

### 2.2 Confidentiality

Our assessment process is confidential in order to protect the innovative research ideas proposed by the applicants.

When you agree to review for the MRC you are bound by a confidentiality agreement, either through the Je-S terms and conditions and reviewer protocol, or a standalone agreement. This means that everything we send you is confidential and must be treated as such at all times. You must not discuss or share the proposal with anyone. If you do not consider that you have the expertise to provide a useful review, without discussing it with a colleague for example, you should decline the invitation.

When reviewing proposals it is important that reviewers avoid storing confidential MRC data on their local IT system, computer or mobile device. If this is unavoidable, in order to protect the information, please adhere to the following guidelines:

- Follow the MRC policy to encrypt the device or the folder in which the data is to be stored, so that it is protected from unintentional disclosure. At the very least, the data should be compressed (using software like Winzip) and password protected.
- Ensure that you have enabled password or pin protection on your computer or device to prevent unauthorised access to the information.
- Enable auto-lock on the computer or device and set to a maximum of five minutes.
- Avoid joining unknown Wi-Fi networks.
- Never leave your mobile device unattended.

- Securely delete any data when you have completed your review.
- In the event of a data loss, please report the incident to MRC Head Office as soon as possible ([peer.review@mrc.ukri.org](mailto:peer.review@mrc.ukri.org)).

### 2.3 Anonymity

Peer Review is anonymous to support the free and frank exchange of views. You should ensure that you do not inadvertently identify yourself in the text of your review, for example by describing aspects of your own research, or by identifying where you have worked. If you complete the declaration of interest section, this text will be removed before the review is shared with the applicant but the rest of the review is generally not reviewed or edited.

### 2.4 Information rights legislation

All information we hold, including information around peer review, is subject to the [Data Protection Act](#) and the [Freedom of Information Act \(FOIA\)](#). All requests are considered on a case by case basis and in some cases it might be necessary to seek your view on releasing information relating to the review you have provided.

Further information on how the Peer Review process is used by the Research Councils to make funding decisions and how information relating to Peer Review and the funding of proposals is managed by the Research Councils is available in the [UKRI Peer Review Framework](#).

## 3. How to submit your review

Reviewers are chosen for their expertise in a particular field of research. Some schemes may require reviewers with different levels of expertise or particular skill sets. In certain circumstances we may ask a reviewer to consider a single aspect of a proposal, for example a particular methodological approach or [one strand of a multi-faceted proposal](#).

If you are approached to provide a review, you will receive an email containing the details of the proposal. You will normally be asked to complete the review using the [Joint electronic Submission System](#) (Je-S). Logging into Je-S gives access to all the information you need to carry out your review. You will be able to see the proposal documents including the case for support, justification of resources, data management plan, CVs and other documents.

You will be asked to complete a review form online, which will contain various questions about the proposed work and your assessment of it. You should refer to the [assessment criteria](#) for each scheme and the guidance on [how to write a good review](#).

You will also be asked to provide an overall score from 1-6. You should refer to the [scoring matrix](#) for what we expect of proposals in each scoring band and should justify why you are giving this score within your comments.

### 3.1 What happens to your review?

Your review is passed to the board or panel members, who will use it to inform their assessment of the proposal. In most cases but not all\* this involves a triage or shortlisting after which some proposals are rejected, followed by a meeting where the most competitive proposals are discussed and a final funding decision is made.

Your review will be made available to the applicant. In most cases\*\*, those applicants that pass through triage will have the opportunity to respond to all of the reviewers' comments before the board or panel meeting.

You will be informed when a proposal you have reviewed is successful. The outcomes of all funding decisions will be published on the MRC website soon after the board or panel meeting.

### 3.2 Timescales

If you cannot comment within the suggested timescale, please confirm this immediately so we can discuss extending the deadline or consider approaching another reviewer. You can contact our board and panel teams via email: [peer.review@mrc.ukri.org](mailto:peer.review@mrc.ukri.org) or via telephone: +44 (0) 1793 416248.

### 3.3 Queries

If you have any queries about the review process, please contact our board and panel teams via email: [peer.review@mrc.ukri.org](mailto:peer.review@mrc.ukri.org) or via telephone: +44 (0) 1793 416248.

Further guidance on using Je-S can be found on the [Je-S help pages](#) or by contacting the Je-S helpdesk.

- Email: JeSHelp@rcuk.ac.uk
- Phone: +44 (0) 1793 44 4164\*
- Staffed Monday to Thursday 8.30am to 5pm and Fridays 8.30am to 4.30pm (excluding bank holidays and other holidays)

\*excludes [DPFS](#) and some MRC strategic calls

\*\*excludes [fellowships](#), [DPFS](#) and some MRC strategic calls

## 4. Assessment criteria

The assessment of any research proposal is based on three core criteria:

1. **Importance:** how important are the questions, or gaps in knowledge, that are being addressed?
2. **Scientific potential:** what are the prospects for good scientific progress?
3. **Resources requested:** are the funds requested essential for the work, and do the importance and scientific potential justify funding on the scale requested? Does the proposal represent good value for money?

We also ask reviewers to consider other aspects of the research, including the potential impact and pathways to achieving this, ethical issues, appropriate use of animals and/or human tissue, methodology and experimental design and data management plans.

Each of the different funding schemes we operate will have a set of more detailed criteria (see below) and you should read and consider the set for the scheme you are reviewing for. The scheme will be specified within the proposal form.

#### 4.1 Research Grant assessment criteria

<b>Importance</b>	<ul style="list-style-type: none"> <li>• How important are the research questions, or gaps in knowledge, that would be addressed?</li> <li>• Is the level of innovation likely to lead to significant new understanding?</li> </ul>
<b>Scientific potential</b>	<p><b>Research Quality</b></p> <ul style="list-style-type: none"> <li>• What are the prospects for good scientific progress?</li> <li>• How convincing and coherent is the management strategy proposed?</li> <li>• Robust methodology and experimental design should be at the centre of any proposal to aid reproducibility of research findings. Has the applicant clearly set out and justified the following:             <ul style="list-style-type: none"> <li>○ Measures for avoidance of bias (eg blinding, randomisation)</li> <li>○ Number of experimental and control groups and sample size per group</li> <li>○ How the sample size was calculated, showing power calculations and including justification of effect size</li> <li>○ Overview of the planned statistical analyses in relation to the primary outcomes to be assessed</li> <li>○ Frequency of measurements/interventions to be used</li> <li>○ Circumstances in which power calculations are not appropriate to determine sample size</li> </ul> </li> <li>• How well have project risks been identified, and will they be mitigated?</li> </ul> <p><b>Research environment and people</b></p> <ul style="list-style-type: none"> <li>• How suitable is the investigator group? Please comment on track record(s) of the individual(s) in their fields and whether they are best-placed to deliver the proposed research. Reviewers should take account of preprints in considering applications, noting the content of the papers, not where they, or subsequent peer reviewed papers, are published.</li> <li>• How suitable is the environment where the proposed research will take place? Please comment on the level of commitment of the host research organisation to supporting the proposed research and whether appropriate facilities will be available to the researchers.</li> </ul> <p><b>Impact</b></p> <ul style="list-style-type: none"> <li>• What is the potential economic and societal impact of the proposed research? Please comment on:             <ul style="list-style-type: none"> <li>○ identification of realistic potential improvements to human or population health</li> <li>○ contribution to relieving disease/disability burden and/or improving quality of life</li> <li>○ identification of potential impacts of research and plans to deliver these (in the Pathways to Impact statement)</li> </ul> </li> </ul> <p><b>Ethics</b></p>

	<ul style="list-style-type: none"> <li>• Are there any ethical and/or research governance issues? Please comment on: <ul style="list-style-type: none"> <li>○ whether the proposed research is ethically acceptable</li> <li>○ any ethical issues that need separate consideration</li> <li>○ appropriateness of ethical review and research governance considerations</li> <li>○ any potential adverse consequences for humans, animals or the environment and whether these risks have been addressed satisfactorily in the proposal</li> </ul> </li> </ul> <p><b>Data management plan</b></p> <ul style="list-style-type: none"> <li>• Does the data management plan indicate whether the applicants have (or are likely to have) a sound plan for managing the research data funded through the award, taking account: <ul style="list-style-type: none"> <li>○ the types, scale and complexity of data being (or to be) managed</li> <li>○ the likely long-term value for further research including by sharing data</li> <li>○ the anticipated information security and ethics requirements</li> </ul> </li> </ul> <p><b>MRC Industrial Collaboration Awards (MICA)</b></p> <p>Any research proposal involving a collaboration with one or more industrial partners (contributing either in cash or in kind) is handled by MRC as a MICA. All MICA proposals will be identifiable to reviewers as they will have the word 'MICA' at the start of the project title.</p> <ul style="list-style-type: none"> <li>• If the proposal has been identified as a MICA, it will also need to convince the relevant research board or funding panel that: <ul style="list-style-type: none"> <li>○ the planned research could or would not be undertaken in the absence of the requested funding, or that it could not be undertaken to the quality level or timescale proposed</li> <li>○ the collaboration or partnership is consistent with the aims and delivery of the project and MRC funding rules and requirements for academic-industry collaborations</li> <li>○ potential conflicts of interest between the parties are acceptable and are being, or would be, appropriately managed</li> </ul> </li> </ul> <p><b>Research involving cohort resources</b></p> <p>Any research proposal involving a cohort.</p> <ul style="list-style-type: none"> <li>•</li> <li>• What new health research questions or hypotheses it will be possible to answer over the next five to ten years using the cohort resource?</li> <li>• Why can this science be addressed using this cohort above other resources?</li> <li>• What does this cohort offer that other cohorts do not (nationally and internationally) and how does it relate to other relevant cohorts? Applicants should either list the assets (measures, specimens, population group) as an Annex or reference the cohort website.</li> <li>• What are the plans for establishing the cohort as a resource – how is it/will it be used by the wider research community?</li> </ul>
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<b>Resources requested</b>	<ul style="list-style-type: none"> <li>• Are the funds requested essential for the work and justified by the importance and scientific potential of the research?</li> <li>• Is the applicants' stated time commitment to the work appropriate and sufficient?</li> <li>• Does the proposal demonstrate value for money in terms of the resources requested?</li> <li>• Is any animal use fully justified in terms of need, species, number, conformance to guidelines?</li> </ul> <p><b>Research involving cohort resources</b></p> <ul style="list-style-type: none"> <li>• Applicants must be clear which costs relate to de novo data collection, analysis of new data and/or maintenance or use of existing data</li> </ul>
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## 4.2 New Investigator Research Grant (NIRG) assessment criteria

<b>Importance</b>	<ul style="list-style-type: none"> <li>• How important are the research questions, or gaps in knowledge, that would be addressed?</li> <li>• Is the level of innovation likely to lead to significant new understanding?</li> </ul>
<b>Scientific potential</b>	<p><b>Research Quality</b></p> <ul style="list-style-type: none"> <li>• What are the prospects for good scientific progress?</li> <li>• How convincing and coherent is the management strategy proposed?</li> <li>• Robust methodology and experimental design should be at the centre of any proposal to aid reproducibility of research findings. Has the applicant clearly set out and justified the following: <ul style="list-style-type: none"> <li>○ Measures for avoidance of bias (eg. blinding, randomisation)</li> <li>○ Number of experimental and control groups and sample size per group</li> <li>○ How the sample size was calculated, showing power calculations and including justification of effect size</li> <li>○ Overview of the planned statistical analyses in relation to the primary outcomes to be assessed</li> <li>○ Frequency of measurements/interventions to be used</li> <li>○ Circumstances in which power calculations are not appropriate to determine sample size</li> </ul> </li> <li>• How well have project risks been identified, and will they be mitigated?</li> </ul> <p><b>Research Environment and People</b></p> <ul style="list-style-type: none"> <li>• Is the applicant capable of becoming an independent Principal Investigator and is now ready to take the next step towards that goal (<a href="http://mrc.ukri.org/skills-careers/skills-needed-to-win-support/">mrc.ukri.org/skills-careers/skills-needed-to-win-support/</a>)? Reviewers should take account of preprints in considering applications, noting the content of the papers, not where they, or subsequent peer reviewed papers, are published.</li> <li>• Has the applicant demonstrated that they will direct the proposed research and be actively engaged in carrying it through, taking into account research experience, supervisory experience and publications?</li> <li>• Does the individual have the potential to progress to securing further grant support (eg. MRC research grant funding) at the end of this</li> </ul>

award? I.e. do they have clear research plans that are distinct from their current group / leader? Do they cite outputs from their research experience to date to demonstrate their readiness to develop?

- Is the host research organisation providing an appropriate career structure and support to facilitate the transition to independence? This should be detailed in a letter of support from the research organisation.
- Are the collaborators well-chosen?

#### **Impact**

- What is the potential economic and societal impact of the proposed research? Please comment on:
  - identification of realistic potential improvements to human or population health
  - contribution to relieving disease/disability burden and/or improving quality of life
  - identification of potential impacts of research and plans to deliver these (in the Pathways to Impact statement)

#### **Ethics**

- Are there any ethical and/or research governance issues? Please comment on:
  - whether the proposed research is ethically acceptable
  - any ethical issues that need separate consideration
  - appropriateness of ethical review and research governance considerations
  - any potential adverse consequences for humans, animals or the environment and whether these risks have been addressed satisfactorily in the proposal

#### **Data Management Plan**

- Does the data management plan indicate whether the applicants have (or are likely to have) a sound plan for managing the research data funded through the award, taking account:
  - the types, scale and complexity of data being (or to be) managed
  - the likely long-term value for further research including by sharing data
  - the anticipated information security and ethics requirements

#### **MRC Industrial Collaboration Awards (MICA)**

Any research proposal involving a collaboration with one or more industrial partners (contributing either in cash or in kind) is handled by MRC as a MICA. All MICA proposals will be identifiable to reviewers as they will have the word 'MICA' at the start of the project title.

- If the proposal has been identified as a MICA, it will also need to convince the relevant research board or funding panel that:
  - the planned research could or would not be undertaken in the absence of the requested funding, or that it could not be undertaken to the quality level or timescale proposed
  - the collaboration or partnership is consistent with the aims and delivery of the project and MRC funding rules and requirements for academic-industry collaborations
  - potential conflicts of interest between the parties are

	<p>acceptable and are being, or would be, appropriately managed</p> <p><b>Research involving cohort resources</b></p> <p>Any research proposal involving a cohort.</p> <ul style="list-style-type: none"> <li>• What new health research questions or hypotheses it will be possible to answer over the next five to ten years using the cohort resource?</li> <li>• Why can this science be addressed using this cohort above other resources?</li> <li>• What does this cohort offer that other cohorts do not (nationally and internationally) and how does it relate to other relevant cohorts? Applicants should either list the assets (measures, specimens, population group) as an Annex or reference the cohort website.</li> <li>• What are the plans for establishing the cohort as a resource – how is it/will it be used by the wider research community?</li> </ul>
<b>Resources requested</b>	<ul style="list-style-type: none"> <li>• Are the funds requested essential for the work and justified by the importance and scientific potential of the research?</li> <li>• Is the applicant's stated time commitment to the work appropriate and sufficient?</li> <li>• Does the proposal demonstrate value for money in terms of the resources requested?</li> <li>• Is any animal use fully justified in terms of need, species, number, conformance to guidelines?</li> </ul> <p><b>Research involving cohort resources</b></p> <ul style="list-style-type: none"> <li>• Applicants must be clear which costs relate to de novo data collection, analysis of new data and/or maintenance or use of existing data</li> </ul>

### 4.3 Programme Grant assessment criteria

<b>Importance</b>	<ul style="list-style-type: none"> <li>• How important are the research questions, or gaps in knowledge, that would be addressed?</li> <li>• Is the proposed work a "programme", ie a coordinated and coherent group of related projects to answer an inter-related set of questions?</li> <li>• Does the work require long-term and extensive support?</li> </ul>
<b>Scientific potential</b>	<p><b>Research Quality</b></p> <ul style="list-style-type: none"> <li>• What are the prospects for good scientific progress?</li> <li>• How convincing and coherent is the management strategy proposed?</li> <li>• Robust methodology and experimental design should be at the centre of any proposal to aid reproducibility of research findings. Has the applicant clearly set out and justified the following: <ul style="list-style-type: none"> <li>○ Measures for avoidance of bias (eg blinding, randomisation)</li> <li>○ Number of experimental and control groups and sample size per group</li> <li>○ How the sample size was calculated, showing power calculations and including justification of effect size</li> <li>○ Overview of the planned statistical analyses in relation to the primary outcomes to be assessed</li> <li>○ Frequency of measurements/interventions to be used</li> <li>○ Circumstances in which power calculations are not appropriate to determine sample size</li> </ul> </li> </ul>

- How well have project risks been identified, and will they be mitigated?

### **Research Environment and People**

- From the applicant's track record of research, do they have the potential to successfully manage and deliver a major research programme?
- What is the track record and standing in the field of the named applicants? Reviewers should take account of preprints in considering applications, noting the content of the papers, not where they, or subsequent peer reviewed papers, are published.
- How appropriate is the expertise of the applicants to the proposed work?
- Is the proposed environment(s) suitable and does it have the variety of expertise and disciplines to support a programme?
- Has the host institution(s) demonstrated a clear commitment to the proposed programme for the duration of the grant?
- Are any collaborators well chosen?
- Does the environment provide appropriate opportunities for training and career development of personnel supported on the grant?
- Are there any dependencies on other organisations or funding of which the MRC should be made aware?

### **Impact**

- What is the potential economic and societal impact of the proposed research? Please comment on:
  - identification of realistic potential improvements to human or population health
  - contribution to relieving disease/disability burden and/or improving quality of life
  - identification of potential impacts of research and plans to deliver these (in the Pathways to Impact statement)

### **Ethics**

- Are there any ethical and/or research governance issues? Please comment on:
  - whether the proposed research is ethically acceptable
  - any ethical issues that need separate consideration
  - appropriateness of ethical review and research governance considerations
  - any potential adverse consequences for humans, animals or the environment and whether these risks have been addressed satisfactorily in the proposal

### **Data Management Plan**

- Does the data management plan indicate whether the applicants have (or are likely to have) a sound plan for managing the research data funded through the award, taking account:
  - the types, scale and complexity of data being (or to be) managed
  - the likely long-term value for further research including by sharing data
  - the anticipated information security and ethics requirements.

	<p><b>MRC Industrial Collaboration Awards (MICA)</b> Any research proposal involving a collaboration with one or more industrial partners (contributing either in cash or in kind) is handled by MRC as a MICA. All MICA proposals will be identifiable to reviewers as they will have the word 'MICA' at the start of the project title.</p> <ul style="list-style-type: none"> <li>• If the proposal has been identified as a MICA, it will also need to convince the relevant research board or funding panel that: <ul style="list-style-type: none"> <li>○ the planned research could or would not be undertaken in the absence of the requested funding, or that it could not be undertaken to the quality level or timescale proposed</li> <li>○ the collaboration or partnership is consistent with the aims and delivery of the project and MRC funding rules and requirements for academic-industry collaborations</li> <li>○ potential conflicts of interest between the parties are acceptable and are being, or would be, appropriately managed</li> </ul> </li> </ul> <p><b>Research involving cohort resources</b> Any research proposal involving a cohort.</p> <ul style="list-style-type: none"> <li>• What new health research questions or hypotheses it will be possible to answer over the next five to ten years using the cohort resource?</li> <li>• Why can this science be addressed using this cohort above other resources?</li> <li>• What does this cohort offer that other cohorts do not (nationally and internationally) and how does it relate to other relevant cohorts? Applicants should either list the assets (measures, specimens, population group) as an Annex or reference the cohort website.</li> <li>• What are the plans for establishing the cohort as a resource – how is it/will it be used by the wider research community?</li> </ul>
<p><b>Resources requested</b></p>	<ul style="list-style-type: none"> <li>• Are the funds requested essential for the work and justified by the importance and scientific potential of the research?</li> <li>• Is the applicants' stated time commitment to the work appropriate and sufficient?</li> <li>• Where the MRC is being asked to fund investigator salaries, are the requests in each case reasonable?</li> <li>• Does the proposal demonstrate value for money in terms of the resources requested?</li> <li>• Is any animal use fully justified in terms of need, species, number, conformance to guidelines?</li> </ul> <p><b>Research involving cohort resources</b></p> <ul style="list-style-type: none"> <li>• Applicants must be clear which costs relate to de novo data collection, analysis of new data and/or maintenance or use of existing data</li> </ul>

#### 4.4 Partnership Grant assessment criteria

<p><b>Importance</b></p>	<ul style="list-style-type: none"> <li>• How important are the objectives the partnership plans to address?</li> <li>• Have the applicants demonstrated the partnership format is right for activities they propose and for the scientific field? Will the partnership provide added value to the research?</li> <li>• How original is the proposal? Are there similar partnerships in the UK</li> </ul>
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	<p>or elsewhere?</p> <ul style="list-style-type: none"> <li>• What impact will this Partnership grant funding have on current or future scientific delivery and on scientific strategy?</li> </ul>
<p><b>Scientific potential</b></p>	<p><b>Research Quality</b></p> <ul style="list-style-type: none"> <li>• What is the potential of this approach to advance the scientific area?</li> <li>• Are the aims and objectives realistic within the timeframe and with the resources proposed?</li> <li>• How convincing and coherent is the management strategy proposed?</li> <li>• What is the longer-term outlook beyond the funded period of the partnership?</li> <li>• Robust methodology and experimental design should be at the centre of any proposal to aid reproducibility of research findings. Has the applicant clearly set out and justified the following: <ul style="list-style-type: none"> <li>○ Measures for avoidance of bias (eg blinding, randomisation)</li> <li>○ Number of experimental and control groups and sample size per group</li> <li>○ How the sample size was calculated, showing power calculations and including justification of effect size</li> <li>○ Overview of the planned statistical analyses in relation to the primary outcomes to be assessed</li> <li>○ Frequency of measurements/interventions to be used</li> <li>○ Circumstances in which power calculations are not appropriate to determine sample size</li> </ul> </li> <li>• How well have project risks been identified, and will they be mitigated?</li> </ul> <p><b>Research Environment and People</b></p> <ul style="list-style-type: none"> <li>• How will the researchers involved in the partnership deliver the proposed work? Specifically: <ul style="list-style-type: none"> <li>○ Are the co-investigators and/or collaborators well chosen?</li> <li>○ Does the quality and productivity of their recent work suggest that they will be likely to successfully deliver the proposed objectives? Reviewers should take account of preprints in considering applications, noting the content of the papers, not where they, or subsequent peer reviewed papers, are published.</li> <li>○ What skills and expertise do the Investigators have to promise success in the proposed approaches?</li> </ul> </li> <li>• Has the partnership environment been well described?</li> <li>• Has the host RO(s) demonstrated commitment to supporting the proposed partnership, for example by reducing or waiving co-investigator salary and associated estates costs?</li> <li>• If the proposal is for shared equipment or expertise, have the applicants described where this will be sited and how it will be supported by the host RO(s)? Does the management strategy ensure equitable access to any equipment or staff that will be shared between collaborators?</li> <li>• Does the partnership provide opportunities for the training and career development of personnel working in the partnership?</li> <li>• If the proposal involves a request for studentships: <ul style="list-style-type: none"> <li>○ Will the studentships provide a unique training experience which could not be supported by existing MRC studentship support for example Doctoral Training Grant funding?</li> <li>○ Will the management strategy ensure high standards of</li> </ul> </li> </ul>

	<p>supervision, mentoring and support for students?</p> <ul style="list-style-type: none"> <li>○ Do all studentships requested meet MRC's research training objectives and expectations (see RCUK Statement of Expectations for Doctoral Training)?</li> </ul> <p><b>Impact</b></p> <ul style="list-style-type: none"> <li>● What is the potential economic and societal impact of the proposed research? Please comment on <ul style="list-style-type: none"> <li>○ identification of realistic potential improvements to human or population health</li> <li>○ contribution to relieving disease/disability burden and/or improving quality of life</li> <li>○ identification of potential impacts of research and plans to deliver these (in the Pathways to Impact statement)</li> </ul> </li> </ul> <p><b>Ethics</b></p> <ul style="list-style-type: none"> <li>● Are there any ethical and/or research governance issues? Please comment on: <ul style="list-style-type: none"> <li>○ whether the proposed research is ethically acceptable</li> <li>○ any ethical issues that need separate consideration</li> <li>○ appropriateness of ethical review and research governance considerations</li> <li>○ any potential adverse consequences for humans, animals or the environment and whether these risks have been addressed satisfactorily in the proposal.</li> </ul> </li> </ul> <p><b>Data Management Plan</b></p> <ul style="list-style-type: none"> <li>● Does the data management plan indicate whether the applicants have (or are likely to have) a sound plan for managing the research data funded through the award, taking account: <ul style="list-style-type: none"> <li>○ the types, scale and complexity of data being (or to be) managed</li> <li>○ the likely long-term value for further research including by sharing data</li> <li>○ the anticipated information security and ethics requirements.</li> </ul> </li> </ul> <p><b>Research involving cohort resources</b> Any research proposal involving a cohort:</p> <ul style="list-style-type: none"> <li>● What new health research questions or hypotheses it will be possible to answer over the next five to ten years using the cohort resource?</li> <li>● Why can this science be addressed using this cohort above other resources?</li> <li>● What does this cohort offer that other cohorts do not (nationally and internationally) and how does it relate to other relevant cohorts? Applicants should either list the assets (measures, specimens, population group) as an Annex or reference the cohort website.</li> <li>● What are the plans for establishing the cohort as a resource – how is it/will it be used by the wider research community?</li> </ul>
<b>Resources requested</b>	<ul style="list-style-type: none"> <li>● Where the MRC is being asked to fund investigator salaries are the requests in each case reasonable and do they reflect the level of intellectual contribution?</li> <li>● Do contributions from the host RO(s) or from other sources enhance the value for money of the proposal?</li> </ul>

	<p><b>Research involving cohort resources</b></p> <ul style="list-style-type: none"> <li>• Applicants must be clear which costs relate to de novo data collection, analysis of new data and/or maintenance or use of existing data</li> </ul>
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#### 4.5 Developmental Pathways Funding Scheme (DPFS) assessment criteria

<b>Importance</b>	<p><b>Need and solution</b></p> <ul style="list-style-type: none"> <li>• Does the identified need exist?</li> <li>• If the need is not significant now, will it become so in the future?</li> <li>• Is the need met or unmet? If unmet, will it likely be unmet at the time that the proposed solution is in place?</li> <li>• Would meeting this need significantly reduce disease burden and/or provide a valuable commercial opportunity and/or alleviate an important development bottleneck?</li> <li>• Is the proposed solution reasonable?</li> <li>• Could the proposed solution or components thereof meet other significant needs?</li> </ul> <p><b>Competitiveness</b></p> <ul style="list-style-type: none"> <li>• Has the applicant identified the key competing solutions and their status or are you aware of other similar or complementary research underway elsewhere?</li> <li>• Has the applicant identified the key competitive advantages of their proposed solution?</li> <li>• How likely is it that the proposed solution, if achieved, would be widely adopted?</li> </ul>
<b>Scientific potential</b>	<p><b>Rationale</b></p> <ul style="list-style-type: none"> <li>• Is there a good medical/scientific rationale for the project?</li> <li>• Is there a reasonable body of evidence to support the proposed rationale?</li> </ul> <p><b>Objective and approach</b></p> <ul style="list-style-type: none"> <li>• Is the proposal non-duplicative of R&amp;D efforts taking place in industry?</li> <li>• Is the proposed approach an effective way of meeting the plan's objectives and is it based on a good scientific rationale?</li> <li>• How innovative is the plan, or is it a tried and tested approach?</li> <li>• Use of laboratory animals - where appropriate: <ul style="list-style-type: none"> <li>○ Could the proposed research work be carried out using approaches or techniques that avoid the use of animals?</li> <li>○ Have the applicants fully justified the use of animals and the proposed species?</li> <li>○ Is the number of animals appropriate?</li> <li>○ Where the proposed research involves the use of primates – does the establishment comply with the NC3Rs' 'Guidelines on primate accommodation, care and use' 2007?</li> </ul> </li> <li>• If relevant, is the project appropriately statistically powered?</li> <li>• Are the proposed plans for disseminating the results of the research appropriate and adequate?</li> </ul>

**Project plan**

- Is the project plan sufficient in comparison to the complexity of the project?
- Does the plan propose reasonable go/no-go milestones? Are the milestone timings appropriate and are the success criteria necessary and sufficient to judge progression?
- Are the proposed probabilities of milestones being met reasonable?
- Collaboration/outsourcing - where appropriate:
  - Do the contributions made by the collaborating/parties contracted to undertake the outsourced work enable the project to be delivered or enable it to be delivered to the required quality or within the required time?
  - Would the proposed work be undertaken or undertaken to the required quality or within the required time in the absence of the requested funding?
  - Are potential conflicts of interest between the parties acceptable and are they being appropriately managed?

**Project and risk management**

- Do the applicants have, or likely will have, the necessary project management experience to deliver the plan?
- Has the individual or group established a high quality track record in the field?
- Where the proposal embarks on work in a field new to the applicants, or is a first funding proposal, is there a firm foundation to take the work forward?
- How well does the work fit with other relevant research pursued by the applicants?
- Have the applicants identified the key project risks and reasonably judged their likelihood of occurrence and severity of impact?
- Is the proposed risk management approach appropriate?

**Data Management Plan**

- Does the data management plan indicate whether the applicants have (or are likely to have) a sound plan for managing the research data funded through the award, taking account:
  - the types, scale and complexity of data being (or to be) managed
  - the likely long-term value for further research including by sharing data
  - the anticipated information security and ethics requirements

**Impact**

- What is the potential economic and societal impact of the proposed research, including:
  - Identification of realistic potential improvements to human or population health
  - Contribution to relieving disease/disability burden and/or improving quality of life
  - Identification of potential impacts of research and plans to deliver these

	<p><b>MRC Industrial Collaboration Awards (MICA)</b> Any research proposal involving a collaboration with one or more industrial partners (contributing either in cash or in kind) is handled by MRC as a MICA. All MICA proposals will be identifiable to reviewers as they will have the word 'MICA' at the start of the project title.</p> <ul style="list-style-type: none"> <li>• If the proposal has been identified as a MICA, it will also need to convince the relevant research board or funding panel that: <ul style="list-style-type: none"> <li>○ the planned research could or would not be undertaken in the absence of the requested funding, or that it could not be undertaken to the quality level or timescale proposed</li> <li>○ the collaboration or partnership is consistent with the aims and delivery of the project and MRC funding rules and requirements for academic-industry collaborations</li> <li>○ potential conflicts of interest between the parties are acceptable and are being, or would be, appropriately managed</li> </ul> </li> </ul>
<p><b>Resources requested</b></p>	<p><b>Resource requirements and environment</b></p> <ul style="list-style-type: none"> <li>• Has the team identified and secured reasonable access to necessary resources/skills?</li> <li>• For Principal Investigators and Project Managers, is the requested time consistent with their proposed involvement; necessary or sufficient for the successful management of the research; and a realistic expectation of the time they could make available?</li> <li>• Are the number and skills/experience of requested staff appropriate for the work described?</li> <li>• Is the budget realistic for the scale and complexity of the project?</li> <li>• Are project costs that will be met by sources other than the MRC clearly identified?</li> <li>• Have the applicants set out a clear and reasonable case for the requested levels of staffing and overall resources?</li> <li>• Has the host Research Organisation demonstrated a commitment to supporting the work?</li> <li>• Does the project make good use of available clinical infrastructure (BRC/Us, CRFs, patient cohorts) where appropriate?</li> <li>• Does the proposal make appropriate use of available core DPFS portfolio resources?</li> <li>• Taking into account the expected benefits of the work proposed and the level of resources requested, does the proposal promise good value for money?</li> </ul>

#### 4.6 Pre-doctoral Fellowship assessment criteria

Eg. Clinical Research Training Fellowship (CRTF)

<p><b>Importance</b></p>	<ul style="list-style-type: none"> <li>• Comment on the importance of the research, including: <ul style="list-style-type: none"> <li>○ Strength of medical or scientific case</li> <li>○ Level of innovation and whether this is likely to lead to significant new understanding</li> </ul> </li> </ul>
<p><b>Scientific potential</b></p>	<p><b>Applicant</b></p> <ul style="list-style-type: none"> <li>• Comment on the applicant, considering their: <ul style="list-style-type: none"> <li>○ Track record and achievements to date. Reviewers should take</li> </ul> </li> </ul>

account of preprints in considering applications, noting the content of the papers, not where they, or subsequent peer reviewed papers, are published.

- Expertise and skill set
- Current research standing
- Ability to carry out the proposed work; does the applicant have adequate research experience to undertake this work?
- Potential for the future; is the applicant committed to a career in academic medicine?
- Is the applicant at the appropriate level for this fellowship?
- Do you think the applicant has played a significant role in the design of the project and the writing of the research proposal?

### **Project and Training**

- Robust methodology and experimental design should be at the centre of any proposal to aid reproducibility of research findings. Has the applicant clearly set out and justified the following:
  - Measures for avoidance of bias (eg blinding, randomisation)
  - Number of experimental and control groups and sample size per group
  - How the sample size was calculated, showing power calculations and including justification of effect size
  - Overview of the planned statistical analyses in relation to the primary outcomes to be assessed
  - Frequency of measurements/interventions to be used
  - Circumstances in which power calculations are not appropriate to determine sample size
- Comment on the value of the proposed training plans including the proposed placements or collaborations

### **Environment**

- Comment on the suitability of the research centre where the proposed Fellowship is to be based, including:
  - Scientific impact in the field
  - Appropriateness for the work proposed
  - Level of commitment from supervisors, mentors and host institution
  - Opportunities for training and career development actively identified and supported

### **Ethics**

- Is the proposed research ethically acceptable?
- Are there any ethical issues that need separate consideration?
- Are the ethical review and research governance arrangements appropriate?
- Are there any potential adverse consequences for humans, animals or the environment and are these risks addressed satisfactorily in the proposal?

### **Data Management Plan**

- Does the data management plan indicate whether the applicants have (or are likely to have) a sound plan for managing the research data funded through the award, taking into account:

	<ul style="list-style-type: none"> <li>○ the types, scale and complexity of data being (or to be) managed</li> <li>○ the likely long-term value for further research, including by sharing data</li> <li>○ the anticipated information security and ethics requirements?</li> </ul> <p><b>Impact</b></p> <ul style="list-style-type: none"> <li>● What is the potential economic and societal impact of the proposed research? Please comment on: <ul style="list-style-type: none"> <li>○ identification of realistic potential improvements to human or population health</li> <li>○ contribution to relieving disease/disability burden and/or improving quality of life</li> <li>○ identification of potential impacts of research and plans to deliver these (in the Pathways to Impact statement)</li> <li>○</li> </ul> </li> </ul> <p><b>MRC Industrial Collaboration Awards (MICA)</b></p> <p>Any research proposal involving a collaboration with one or more industrial partners (contributing either in cash or in kind) is handled by MRC as a MICA. All MICA proposals will be identifiable to reviewers as they will have the word 'MICA' at the start of the project title.</p> <ul style="list-style-type: none"> <li>● If the proposal has been identified as a MICA, it will also need to convince the relevant research board or funding panel that: <ul style="list-style-type: none"> <li>○ the planned research could or would not be undertaken in the absence of the requested funding, or that it could not be undertaken to the quality level or timescale proposed</li> <li>○ the collaboration or partnership is consistent with the aims and delivery of the project and MRC funding rules and requirements for academic-industry collaborations</li> <li>○ potential conflicts of interest between the parties are acceptable and are being, or would be, appropriately managed</li> </ul> </li> </ul> <p><b>Research involving cohort resources</b></p> <p>Any research proposal involving a cohort.</p> <ul style="list-style-type: none"> <li>● What new health research questions or hypotheses it will be possible to answer over the next five to ten years using the cohort resource?</li> <li>● Why can this science be addressed using this cohort above other resources?</li> <li>● What does this cohort offer that other cohorts do not (nationally and internationally) and how does it relate to other relevant cohorts? Applicants should either list the assets (measures, specimens, population group) as an Annex or reference the cohort website.</li> <li>● What are the plans for establishing the cohort as a resource – how is it/will it be used by the wider research community?</li> </ul>
<b>Resources requested</b>	<ul style="list-style-type: none"> <li>● Are the funds requested essential and justified by the importance and scientific potential of the research? Pre-doctoral applicants are not eligible for FEC. The Research Training Support Grant (up to £20,000 per annum) should be fully justified by the applicant.</li> <li>● Does the proposal demonstrate value for money in terms of the resources requested?</li> </ul>

	<ul style="list-style-type: none"> <li>• Is any animal use fully justified in terms of need, species, number, conformance to guidelines?</li> </ul> <p><b>Research involving cohort resources</b></p> <ul style="list-style-type: none"> <li>• Applicants must be clear which costs relate to de novo data collection, analysis of new data and/or maintenance or use of existing data</li> </ul>
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#### 4.7 Post-doctoral Fellowship assessment criteria

Eg Skills Development Fellowship, Career Development Award (CDA), Clinician Scientist Fellowship (CSF), Senior Non-Clinical Fellowship (SNCF), Senior Clinical Fellowship (SCF)

<b>Importance</b>	<ul style="list-style-type: none"> <li>• Comment on the importance of the research, including: <ul style="list-style-type: none"> <li>○ Strength of medical or scientific case</li> <li>○ Timeliness of the proposals; is it important to pursue this topic now? For example: does the proposal capitalise on a new advance, offering the UK the possibility of an international lead; does it relate to a new or developing healthcare need; does it exploit a “window of opportunity”, eg for the introduction of a new clinical development into practice?</li> <li>○ Level of innovation and whether this is likely to lead to significant new understanding</li> </ul> </li> <li>• Is the proposal “high risk, high pay-off”? If so, how?</li> <li>• Is the proposal internationally competitive?</li> </ul>
<b>Scientific potential</b>	<p><b>Applicant</b></p> <ul style="list-style-type: none"> <li>• Comment on the applicant, considering their: <ul style="list-style-type: none"> <li>○ Track record and achievements to date. Reviewers should take account of preprints in considering applications, noting the content of the papers, not where they, or subsequent peer reviewed papers, are published.</li> <li>○ Expertise and skill set; how appropriate is the expertise of the applicant to the proposed area of research?</li> <li>○ Current research standing</li> <li>○ Ability to carry out the proposed work</li> <li>○ Potential for the future; doe the applicant have the potential to progress to securing major MRC support or similar support from other funders either during or by the end of the fellowship?</li> </ul> </li> <li>• Is the applicant at the appropriate level for this fellowship?</li> </ul> <p><b>Project and Training</b></p> <ul style="list-style-type: none"> <li>• Robust methodology and experimental design should be at the centre of any proposal to aid reproducibility of research findings. Has the applicant clearly set out and justified the following: <ul style="list-style-type: none"> <li>○ Measures for avoidance of bias (eg blinding, randomisation)</li> <li>○ Number of experimental and control groups and sample size per group</li> <li>○ How the sample size was calculated, showing power calculations and including justification of effect size</li> <li>○ Overview of the planned statistical analyses in relation to the primary outcomes to be assessed</li> </ul> </li> </ul>

- Frequency of measurements/interventions to be used
- Circumstances in which power calculations are not appropriate to determine sample size
- Comment on the value of the proposed training plans including the proposed placements or collaborations
- Has the work already been done or is it being done elsewhere? How persuasive is the case that earlier work needs to be replicated or extended to another system?
- Is the fellowship applied for, the most appropriate form of support in this case?

**Environment**

- Comment on the suitability of the research centre where the proposed Fellowship is to be based, including:
  - Scientific impact in the field
  - Appropriateness for the work proposed
  - Level of commitment from supervisors, mentors and host institution
  - Opportunities for training and career development actively identified and supported

**Ethics**

- Is the proposed research ethically acceptable?
- Are there any ethical issues that need separate consideration?
- Are the ethical review and research governance arrangements appropriate?
- Are there any potential adverse consequences for humans, animals or the environment and are these risks addressed satisfactorily in the proposal?

**Data Management Plan**

- Does the data management plan indicate whether the applicants have (or are likely to have) a sound plan for managing the research data funded through the award, taking into account:
  - the types, scale and complexity of data being (or to be) managed
  - the likely long-term value for further research, including by sharing data
  - the anticipated information security and ethics requirements?

**Impact**

- What is the potential economic and societal impact of the proposed research? Please comment on:
  - identification of realistic potential improvements to human or population health
  - contribution to relieving disease/disability burden and/or improving quality of life
  - identification of potential impacts of research and plans to deliver these (in the Pathways to Impact statement)

**MRC Industrial Collaboration Awards (MICA)**

Any research proposal involving a collaboration with one or more industrial

	<p>partners (contributing either in cash or in kind) is handled by MRC as a MICA. All MICA proposals will be identifiable to reviewers as they will have the word 'MICA' at the start of the project title.</p> <ul style="list-style-type: none"> <li>• If the proposal has been identified as a MICA, it will also need to convince the relevant research board or funding panel that: <ul style="list-style-type: none"> <li>○ the planned research could or would not be undertaken in the absence of the requested funding, or that it could not be undertaken to the quality level or timescale proposed</li> <li>○ the collaboration or partnership is consistent with the aims and delivery of the project and MRC funding rules and requirements for academic-industry collaborations</li> <li>○ potential conflicts of interest between the parties are acceptable and are being, or would be, appropriately managed</li> </ul> </li> </ul> <p><b>Research involving cohort resources</b></p> <p>Any research proposal involving a cohort.</p> <ul style="list-style-type: none"> <li>• What new health research questions or hypotheses it will be possible to answer over the next five to ten years using the cohort resource?</li> <li>• Why can this science be addressed using this cohort above other resources?</li> <li>• What does this cohort offer that other cohorts do not (nationally and internationally) and how does it relate to other relevant cohorts? Applicants should either list the assets (measures, specimens, population group) as an Annex or reference the cohort website.</li> <li>• What are the plans for establishing the cohort as a resource – how is it/will it be used by the wider research community?</li> </ul>
<b>Resources requested</b>	<ul style="list-style-type: none"> <li>• Are the funds requested essential and justified by the importance and scientific potential of the research?</li> <li>• If staff costs are requested, is the time estimated for each requested staff member consistent with their involvement with the project? Is the involvement of the requested staff necessary or sufficient for the successful prosecution and management of the research?</li> <li>• Does the proposal demonstrate value for money in terms of the resources requested?</li> <li>• Is any animal use fully justified in terms of need, species, number, conformance to guidelines?</li> </ul> <p><b>Research involving cohort resources</b></p> <ul style="list-style-type: none"> <li>• Applicants must be clear which costs relate to de novo data collection, analysis of new data and/or maintenance or use of existing data</li> </ul>

## 5 Other considerations when reviewing

### 5.1 Unconscious bias

Reviewers must ensure they maintain objectivity in their assessment and should be aware of the potential for unconscious bias and the impact this may have on peer review.

The MRC have put in place various steps to overcome bias; these include:

- Monitoring diversity on our boards and panels
- Providing clear assessment criteria
- Encouraging all board and panel members to attend MRC-led unconscious bias workshops specifically designed to:
  - Explore the way in which unconscious biases can impact funding decision making
  - Learn to identify the types of bias that impact peer review
  - Undertake techniques to help members protect funding decision making from bias
  - Discuss the implications of this for the different stakeholders involved in funding

### 5.2 Responsible use of metrics

Reviewers should not use journal-based metrics, such as Journal Impact Factors, as a surrogate measure of the quality of individual research articles, to assess an individual scientist's contributions. This is in line with our commitment to the San Francisco Declaration on Research Assessment ([sfдора.org/](http://sfдора.org/)).

### 5.3 Career breaks and flexible working

The assessment of MRC proposals frequently involves appraisal of the applicant's track record. In making this appraisal, reviewers should take into account time spent outside the active research environment, whether through career breaks or flexible working.

#### 5.3.1 Impact of Career Breaks and Flexible working

In assessing the effects of career breaks or flexible working, panels will note the applicant's career trajectory and potential at the beginning of a break, relative to the stage of the applicant's career. In assessing applicants, panels will recognise that the effects on productivity of a career break, or a period of flexible working, may continue beyond the return to work. The following areas may be affected\*:

- Presentation and publication record
- Track record of securing funding, including time to obtain preliminary data
- Maintaining networks of research contacts and research collaborations
- Recruitment of staff
- Time required for training
- The ability to take up opportunities in different geographical locations
- The ability to take up courses, sabbaticals, 'visits', placements and secondments

#### 5.3.2 Definitions of Career Break and Flexible working

*Career breaks* are defined as a substantive period of time spent outside research. Reasons may include the following\*:

- Personal reasons
- Trying out a new career
- Parental leave
- Ill health, injury or disability
- Caring/domestic responsibilities
- Study/training/further education

*Flexible working* describes any working arrangement where the number of hours worked, or the time that work is undertaken, vary from standard practice and could include the following\*:

- Reduction in full time hours
- Long term partial return to work
- Job Sharing
- Compressed working hours
- Term-time only working
- Annualised hours

\*Lists are not exhaustive

#### 5.4 MRC Remit and multi/interdisciplinary proposals

If the MRC has invited you to review, please respond on the assumption that the proposal falls predominantly within our remit and that discussions with other Research Councils have taken place if needed. Do not be tempted to adjust your comments or score downward because you do not think that the research fits fully within the MRC's remit. All of the Research Councils encourage research that adds value by linking science across our remits. Research proposals that need to span the distinct remits of different Councils will be handled by one lead Council, with others contributing to the review and funding as needed.

If invited to review multi- and/or inter-disciplinary proposals, you may not be familiar with all aspects of the research. You may have been approached as a reviewer because of your particular expertise in one aspect or because of your experience of cross-disciplinarity. If you only feel confident to comment on particular elements of the proposal, please restrict your comments to these, and tell us what they are in the Declaration of Interests section in Je-S. Reviews will also be sought from experts in all aspects to ensure appropriate coverage.

Cross-disciplinary proposals should clearly articulate the added value of the approach, presenting an explicit view of how they will gain 'more than the sum of their parts' from the collaborations. We do not necessarily expect a step-change in state of the art for each individual discipline; the combination of the disciplines may be the novelty. Reviewers should apply a broad perspective to consider this, even if an expert in only one aspect of the proposal. Multi- and inter-disciplinary research may necessitate a researcher moving disciplines and whilst it is important you are convinced that the appropriate logistical support is in place (including training where necessary), you should take care to review the project and not the applicant(s). Reviewers are encouraged to consider more deeply the benefits of a cross-disciplinary approach, the appropriate disciplines to involve, the integration required and how it can be achieved.

While MRC's role is not to support industrially-led research, MRC strongly encourages academic-industry collaboration and will separately review any collaboration to ensure that MRC support would be appropriate. Please do feel free to comment if you think the project merits MRC support or for example, alternatively should be supported directly by industry or through other means, such as via Innovate UK, but do not modify your overall score as a result.

## 5.5 Ethical issues

Medical research raises a number of ethical issues and the MRC's requirements and expectations relating to research involving humans or animals, or where there are other sensitivities are outlined in the [MRC Ethics Series](#).

Many of the finer points of proposals addressing the issues will involve scrutiny by an independent ethics committee, however we also need to be satisfied that the work is acceptable. Therefore we ask all reviewers to:

- Follow good ethical practice in their role of assessing proposals
- Consider carefully the ethical acceptability of research proposals and where necessary highlight areas the MRC may need to consider
- Assist the MRC in identifying any wider potential implications eg could a piece of non-clinical research involving techniques such as synthetic biology or animal cloning have far-reaching ethical implications?

### 5.5.1 Investigations involving human participants, associated data and/or material

Our expectations and requirements around research involving humans are outlined in the [MRC Ethics Series](#). Specific guidance and advice is available for work involving children, individuals who lack mental capacity, participants in developing societies, personal information, human tissues and biological samples.

Although most of this work involves independent scrutiny by an independent ethics committee, we also need to be satisfied that the work is acceptable. Many proposals have broad-ranging programmes, but do not include detailed protocols, so it is useful to focus on obvious problem areas and novel issues, including:

- Clinical trials – these are submitted with detailed protocols
- Proposals which may involve potentially novel risks need to take into account public as well as scientific perception
- Proposals where consent cannot readily be given or is not going to be obtained
- Proposals which entail using data or material in ways which the donor may not have envisaged
- Proposals in areas of public concern (eg genetics) where the potential relevance to health may not be obvious.

If you consider that there are particular ethical considerations around a proposal, please raise these in your review so that they may be considered by the board or panel.

### 5.5.2 Investigations involving animals

We expect all proposals to conform to our guidance [‘Responsibility in the use of animals in bioscience research: Expectations of the major research council and charitable funding bodies.’](#)

Reviewers are asked to consider whether:

- Animals are needed for the proposed research
- The potential benefit justifies any adverse effects on the animals
- The species and model chosen are appropriate
- The experimental design and planned statistical framework chosen are suitable to address the scientific objectives
- The primary outcomes to be assessed and frequency of measurements / interventions is appropriate
- The total number of animals and chosen sample sizes is appropriate in relation to the planned statistical analyses.
- Appropriate plans to minimise experimental bias are in place

This requirement applies whether or not the animals are to be purchased with MRC funds and whether the work is to be undertaken within or outside the UK.

### 5.5.3 Risks of research misuse

The MRC’s guidance can be found at: [Managing risks of research misuse.](#)

Reviewers are asked to consider:

- Are there any ethical, safety or security issues or other potential adverse consequences associated with the proposed research?
- Whether these issues would include any tangible risks meaning that the research could be misused for harmful purposes. Such purposes would include actions which lead to harm to humans, animals or the environment including terrorist misuse;
- If such issues exist, have these been addressed satisfactorily in the proposal?

### 5.5.4 Investigations involving institutions or external bodies

Where a proposal involves study at the level of institutions or communities, it is important to ensure that ethical issues and potential impact from the group or institutional perspective have been properly addressed.

### 5.5.5 Further concerns about the acceptability of a proposal

If you have any queries about the acceptability of a proposal which are not covered in the MRC guidance, please contact the relevant board or panel team via email: [peer.review@mrc.ukri.org](mailto:peer.review@mrc.ukri.org) or via telephone: +44 (0) 1793 416248.

## 6 How to write a good review

Good reviews are invaluable in helping the board or panel make funding decisions. They also provide constructive feedback to applicants to help them improve their research.

Bear in mind how your review will be used. Board and panel members will use your comments and score to help them in their assessment. They may use your review to help

decide whether the proposal should be discussed at the full meeting or be rejected at triage. Your report will be fed back anonymously to the applicant, who will have an opportunity to respond to questions you raise, should it progress to the second stage of review.

Do:

- Read the assessment criteria and scoring matrix
- Be objective and professional
- Provide clear and concise comments and objective criticism
- Clearly identify strengths and weaknesses
- Provide justification for your comments and the score, whether you are supportive of the proposal or not
- Be aware that not everyone reading the comment will be a specialist in that field.
- Include references
- Be aware of unconscious bias

Don't:

- Make it personal
- Reiterate the proposal or re-state the assessment questions
- Include anything in the assessment that will identify you such as references to your own work, where you have worked or who you have worked with
- Exceed the space restriction in Je-S (4000 characters per section) or the rest of your review will be lost.
- Allow your review to be influenced by bias for your own field of research

Questions to ask yourself:

- How important are the research questions, or gaps in knowledge, that would be addressed?
- Are the researchers up to the job? Do they have the right team, experience and infrastructure? Are they at the forefront nationally? Internationally?
- What are the strengths and weaknesses?
- Is the methodology and experimental design clearly set out and justified? Are the methods appropriate? What could they do better? Are there alternative approaches?
- Are there major flaws or weaknesses?
- Are there any ethical issues?
- Does this proposal represent good value for money?

## Appendix 1: Scoring matrix

Our scoring system allows peer reviewers to provide an overall score for an application, taking into account all the assessment criteria. The scoring matrix contains descriptions of what we expect of applications in each scoring band. These should allow the reviewers to identify a score that reflects their overall summary of the proposal.

Score Indicators	Score
<p><b>Exceptional - Top international programme, or of exceptional national strategic importance</b></p> <ul style="list-style-type: none"> <li>• Scientific quality and impact               <ul style="list-style-type: none"> <li>○ Crucial scientific question or knowledge gap or area of strategic importance</li> <li>○ Original and innovative; novel methodology and design</li> <li>○ Potential for high health and/or socioeconomic impact</li> </ul> </li> <li>• Scientific leadership               <ul style="list-style-type: none"> <li>○ Excellent leadership (<i>track record, team, environment, and collaborators</i>)</li> </ul> </li> <li>• Justification of resources               <ul style="list-style-type: none"> <li>○ Potential for high return on investment (<i>resources requested, likelihood of project delivery, anticipated knowledge generation</i>)</li> <li>○ Appropriate staff time allocated to deliver project (<i>Principal investigators and co-investigators</i>)</li> </ul> </li> <li>• Other: Ethical and/ or governance issues are fully considered</li> </ul>	<b>6</b>
<p><b>Excellent - Internationally competitive and leading edge nationally, or of national strategic importance</b></p> <ul style="list-style-type: none"> <li>• Scientific quality and impact               <ul style="list-style-type: none"> <li>○ Crucial scientific question or knowledge gap or area of strategic importance</li> <li>○ Original and innovative; novel methodology and design</li> <li>○ Potential for high health and/or socioeconomic impact</li> </ul> </li> <li>• Scientific leadership               <ul style="list-style-type: none"> <li>○ Excellent leadership (<i>track record, team, environment, and collaborators</i>)</li> </ul> </li> <li>• Justification of resources               <ul style="list-style-type: none"> <li>○ Potential for high return on investment (<i>resources requested, likelihood of project delivery, anticipated knowledge generation</i>)</li> <li>○ Appropriate staff time allocated to deliver project (<i>Principal investigators and co-investigators</i>)</li> </ul> </li> <li>• Other: Ethical and/ or governance issues are fully considered</li> </ul>	<b>5</b>
<p><b>Very High Quality - Internationally competitive in parts</b></p> <ul style="list-style-type: none"> <li>• Scientific quality and impact               <ul style="list-style-type: none"> <li>○ Crucial scientific question or knowledge gap or area of strategic importance</li> <li>○ Robust methodology and design (<i>innovative in parts</i>)</li> <li>○ Potential for high health and/or socioeconomic impact</li> </ul> </li> <li>• Scientific leadership               <ul style="list-style-type: none"> <li>○ Excellent leadership (<i>track record, team, environment, and collaborators</i>)</li> </ul> </li> <li>• Justification of resources</li> </ul>	<b>4</b>

<ul style="list-style-type: none"> <li>○ Potential for significant return on investment</li> <li>○ Appropriate staff time allocated to deliver project (<i>Principal investigators and co-investigators</i>)</li> <li>● Other: Ethical and/ or governance issues are fully considered</li> </ul>	
<p><b>High Quality</b></p> <ul style="list-style-type: none"> <li>● Scientific quality and impact <ul style="list-style-type: none"> <li>○ Worthwhile scientific question or knowledge gap or a valuable scientific resource</li> <li>○ Methodologically sound study</li> <li>○ Potential for significant health and/or socioeconomic impact</li> </ul> </li> <li>● Scientific leadership <ul style="list-style-type: none"> <li>○ Strong leadership (<i>track record, team, environment, and collaborators</i>)</li> </ul> </li> <li>● Justification of resources <ul style="list-style-type: none"> <li>○ Potential for significant return on investment (<i>resources requested, likelihood of projected delivery, anticipated knowledge generation</i>)</li> <li>○ Appropriate staff time allocated to deliver project (<i>may be scope strengthen management of the project</i>)</li> </ul> </li> <li>● Other: Ethical and/ or governance issues are well considered</li> </ul>	<b>3</b>
<p><b>Good Quality</b></p> <ul style="list-style-type: none"> <li>● Scientific quality and impact <ul style="list-style-type: none"> <li>○ Worthwhile scientific question with potentially useful outcomes</li> <li>○ Methodologically sound study but areas require revision</li> <li>○ Likelihood of successful delivery</li> </ul> </li> <li>● Scientific leadership <ul style="list-style-type: none"> <li>○ Appropriate leadership (<i>scope to strengthen team; environment; collaborators</i>)</li> </ul> </li> <li>● Justification of resources <ul style="list-style-type: none"> <li>○ Potentially more limited return on investment (<i>resources requested, likelihood of project delivery, and anticipated knowledge generation</i>)</li> <li>○ Resources broadly appropriate to deliver the proposal</li> </ul> </li> <li>● Other: Ethical and/or governance issues are adequately considered</li> </ul>	<b>2</b>
<p><b>Poor Quality</b></p> <ul style="list-style-type: none"> <li>● Scientific quality and impact <ul style="list-style-type: none"> <li>○ Poorly defined question</li> <li>○ Methodologically weak study</li> <li>○ Limited likelihood of new knowledge generation</li> </ul> </li> <li>● Scientific potential <ul style="list-style-type: none"> <li>○ Poor leadership</li> </ul> </li> <li>● Justification of resources <ul style="list-style-type: none"> <li>○ Potentially poor return on investment</li> </ul> </li> <li>● Other: Ethical and/ or governance issues are not adequately considered</li> </ul>	<b>1</b>