



Request for Proposal (RFP) for Bias in computational neuroscience and psychiatry modelling, and how this can be mitigated during project development

1. RFP Background & Objectives

Wellcome is undertaking a series of activities to explore further opportunities for neuroscience-related investments relevant for the [Wellcome Mental Health Strategy](#). The outputs of this work could be utilised to inform the remit, eligibility, and assessment criteria for future Mental Health Awards aimed at leveraging neuroscience to help illuminate and resolve anxiety, depression, and psychosis.

The specific focus of this project will be to identify how computational models are being designed, with consideration of how bias mitigation approaches are leveraged across their lifecycle.

Impacts of bias in computational models are well documented. Potential harms relevant to neuroscience and psychiatry include gender-based misdiagnoses, and inappropriate treatment recommendations. For example, if a model picks up on data showing over treatment and/or increased medication use for racialised minorities it may reinforce this bias in its recommendations, unless the team creating the model understand and appropriately account for race during development. Broader applicability is therefore needed not only to improve reproducibility and translation of findings, but to ensure that the mental health needs of diverse populations are being served.

Bias in computational neuroscience and computational psychiatry models can be rooted in the underlying data, such as underrepresentation of racial or ethnic groups, or use of proxy variables which are inappropriately used or correlated e.g. health expenditure used as a measure of ill health. It can also result from methodological approaches and design choices during model development, for example certain design choices may lead to members of a disadvantaged group being misclassified at a higher rate than other subpopulations.

While there are methods for detecting, managing and mitigating bias, these are not always used consistently and may be used in varying combinations or stages of model development. Further, activities intended to mitigate bias, such as selection of fairness metrics or pre/post processing decisions during model development, may instead exacerbate bias if not contextually appropriate.

This project is interested in understanding categories of bias that exist in computational modelling in these fields, and to interrogate how teams developing computational models are drawing upon on bias mitigation methods - to elicit any patterns of activity or preference for approaches across contexts. This will allow for an initial understanding of best practice to be built, to inform future priorities for, and expectations of methodologies used in, Wellcome's Mental Health Awards.



2. RFP Specification

This section sets out the specification of services for this RFP exercise. Suppliers should use this section to fully understand Wellcome's requirements and to inform their response. Wellcome will be guided by the supplier as to what is a reasonable budget for this activity as we do not want limit ambition or innovation.

The primary tasks for the project are:

- A. Undertake a review of computational neuroscience and psychiatry model development with a fairness lens, using an appropriate methodology e.g. review of available literature, interviews with researchers. This should consider computational methods across the development lifecycle including:
 - Approaches to assessing sources of potential data bias, and consideration given to the impact of this;
 - Statistical approaches to addressing data bias e.g. use of fairness metrics;
 - Methods of data pre-processing e.g. demographic parity;
 - Learning strategies used in model development, and relevant in-processing decisions e.g. weighting;
 - Post-processing adjustments to models e.g. fairness thresholds.
- B. Based on the review findings, identify any emergent best practice or preferential approaches, providing clear recommendations that could inform considerations when reviewing research and grant proposals.
- C. It is expected that the core individuals from the Wellcome computational neuroscience working group will meet with the delivery partner(s) on a weekly basis. Meetings with the wider working group, and any additional individuals, will be agreed as required by both partners.

The intended deliverables for this project are as follows:

- (a) 1 x Draft Report for review and input from the Wellcome team, providing:
 - An overview of how bias management and mitigation strategies are used in computational neuroscience and psychiatry model development - outlining the strengths and weaknesses in identified approaches, and how this compares with other fields.
 - An overview of potential recommendations for appropriately utilising the identified methodologies, and any research gaps to be addressed where relevant.
- (b) 1 x PowerPoint presentation and Q&A session of Interim Findings for Wellcome team
- (c) 1 x Final Presentation of Findings, and submission of project report (PDF format)



3. RFP Timetable

#	Activity	Responsibility	Date
1	RFP issue to Suppliers AND RFP issued on Contract Opportunities webpage	Wellcome	24 July 2023
2	Submission of Expression of Interest and Supplier Q&A	Supplier	14 August 2023
3	Return of Supplier Q&A to Suppliers	Wellcome	18 August 2023
4	Submission of RFP Response	Supplier	04 September 2023
5	RFP Evaluation Period	Wellcome	04 to 14 September 2023
7	Notification of Contract Award	Wellcome	September 2023
8	Contract Negotiation	Wellcome & Supplier	September 2023
9	Contract Start Date	Wellcome & Supplier	September/ October 2023

4. Response Format

The following headers support the timetable by providing further detail of the key steps.

Expression of Interest and Supplier Q&A

Suppliers are asked to submit a short expression of interest by e-mail to the Wellcome contact in accordance with the RFP timetable, which should contain the following information.

- Confirming whether you are an organisation or individual
- If an organisation please provide registered name, address, and registration number.
- A non-binding cost estimate as a single figure in GBP
- Any questions you have about the exercise and activity

Prior to the submission of your full proposal to the RFP, Suppliers are provided the opportunity to submit any questions they have about the exercise and the activity. All questions will be collated, anonymised, answered and returned to all Suppliers who have submitted an expression of interest in the RFP process. Please make sure you ask all questions at this stage. Once Wellcome have responded to all questions if you have any additional questions after this deadline these will not be answered to ensure that this is a fair and equitable process.



Submitting an EOI/Q&A is not a binding commitment to submit a full proposal should your organisational priorities change, you will not then be penalised for future opportunities

Please note, if we have an overwhelming response, we may choose to use this EOI stage as a selective phase, this is at Wellcome's discretion.

We will review expressions of interest to ensure that proposals fit within the scope of the RFP. Where we are satisfied of this, we will invite organisations to submit a full proposal to the RFP in accordance with the RFP timetable. Please note that you should only submit a full proposal to the RFP if you have been invited to do so.

RFP Response

Suppliers submitting a full proposal should cover the following areas in their response:

#	Question	Max Pages
1	Proposed approach to deliver outputs as specified above	1.5 pages
2	Relevance of experience of supplier	1 page
3	Time contribution and roles of various team members (if supplier is a team)	0.5 page
4	Costs (including a comprehensive breakdown of expenses, including how many FTEs and number of days that will be required)	0.5 page
5	Quality assurance process for drafts and final deliverables	0.5 page

Evaluation Criteria

Criteria	Detail	%
Methodology	Coverage: How well are the desired focus areas (as outlined in the specification) covered in the proposed methodology address? Quality: Is the proposed methodology aligned with our needs? Utility: Will the proposed methodology deliver the desired, credible, and useful results?	30%
Experience	Skills and Experience: Does the supplier have the relevant skills, experience, and contextual understanding to deliver this work? Does the supplier have a sufficiently representative team to provide insight into the issues being explored?	30%



Delivery & Outputs	Communication: Is there a good plan for communicating and collaborating with the Wellcome team? Delivery plan: Is the proposed delivery plan appropriate and achievable? Feasibility: How feasible is the delivery plan? Are there significant risks associated with the proposed timelines, and how well are they mitigated? Risk: What are the limitations of the proposed approach in relation to our aims?	20%
Budget	Value for Money: Is the proposed work within your budget and good value for money?	10%
EDI	Do they have EDI policies and are these being put into practice in the proposal?	10%
Total:		100%

Contract Feedback

This section allows Suppliers to provide specific feedback to the contractual agreement which will be used should their proposal be successful. This is the suppliers' opportunity to provide negotiation points on Wellcome's terms and conditions, we will not consider negotiations that are only raised after the contract has been awarded so as not to delay the contracting process. Please ensure you engage with a relevant legal contact if applicable. Contract feedback is to be incorporated into your proposal as an annex and in the following format;

Clause #	Issue	Proposed Solution/Comment

Suppliers submitting proposals as a registered company should review Wellcome's Standard terms and Conditions [document](#).

Individuals submitting proposals as a sole trader (not registered) should review this [document](#).

Individuals submitting proposals through their own personal services company please highlight this to the Wellcome contact immediately (see point 6 below).

Information Governance

Wellcome is committed to upholding data protection principles and protecting your information. The [Wellcome-Privacy-Statement-2023.pdf](#) explains how, and on what legal basis, we collect, store, and use personal information about you. This includes any information you provide in relation to this proposal.

Under [GDPR/Data Protection law](#), Wellcome must keep a record of all personal information it is processing (i.e., collecting, using, and sharing). This record will be made available to the Information Commissioner's Office upon request.



This is Wellcome's record of data processing activities which meets GDPR article 30 requirements.

Suppliers will be asked to complete the [TPSRA2](#) assessment before presentation stage to assess how you handle data.

Supplier Presentations

Following a submission of the proposal successful proposals may be invited to a virtual meeting which will last 50 minutes in total and will be a PowerPoint presentation followed by questions and answers session.

5. About Wellcome

Wellcome improves health for everyone by funding research, leading policy and advocacy campaigns, and building global partnerships. Collaborative research that involves a diverse range of people from different fields of interest is key to progress in health science – and to achieving our aim of fostering a healthier, happier, world. We're taking on the biggest health challenges facing humanity – climate and health, infectious disease, and mental health – to find urgent solutions and accelerate preventions. Find out more about Wellcome and our work at: [wellcome.org](https://www.wellcome.org).

6. Prospective Suppliers Personnel - IR35 and Off Payroll Working Rules

Before the RFP response deadline, Prospective Suppliers must make the Wellcome Contact aware if they are intending to submit a proposal where the services will be provided by any individuals who are engaged by the Prospective Supplier via an intermediary i.e.

- Where the Prospective Supplier is an individual contracting through their own personal services company; or
- The Prospective Supplier is providing individuals engaged through intermediaries, for the purposes of the IR35 off-payroll working rules.

7. Equity Diversity and Inclusion

Embracing [diversity and inclusion](#) is fundamental to delivering our mission to improve health, and we are committed to cultivating a fair and healthy environment for the people who work here and those we work with. We want to cultivate an inclusive and diverse culture, and as we learn more about barriers that disadvantage certain groups from progressing in our workplace, we will remove them.

Wellcome takes diversity and inclusion seriously, and we want to partner with suppliers who share our commitment. We may ask you questions related to D&I as part of our RFP processes.



8. Disability Confident

The Wellcome Trust is proud to be a Disability Confident Employer (DC Level 2) and we encourage all our partners and suppliers to do the same. More information about this can be found on the government website [Disability Confident employer scheme and guidance - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/disability-confident-employer-scheme). Disability Confident is creating a movement of change, encouraging employers to think differently about disability and take action to improve how they recruit, retain and develop disabled people.

9. Accessibility

Wellcome is committed to ensuring that our RFP exercises are accessible to everyone. If you have a disability or a chronic health condition, we can offer adjustments to the response format e.g., submitting your response in an alternate format. For support during the RFP exercise, contact the Wellcome Contact.

If, within the proposed outputs of this RFP exercise, specific adjustments are required by you or your team which incur additional cost then outline them clearly within your commercial response. Wellcome is committed to evaluating all proposals fairly and will ensure any proposed adjustment costs sit outside the commercial evaluation.

10. Independent Proposal

By submission of a proposal, prospective Suppliers warrant that the prices in the proposal have been arrived at independently, without consultation, communication, agreement or understanding for the purpose of restricting competition, as to any matter relating to such prices, with any other potential supplier or with any competitor.

11. Funding

For the avoidance of doubt, the output of this RFP exercise will be funded as a **Contract** and not as a Grant.

12. Costs Incurred by Prospective Suppliers

It should be noted that this document relates to a Request for Proposal only and not a firm commitment from Wellcome to enter into a contractual agreement. In addition, Wellcome will not be held responsible for any costs associated with the production of a response to this Request for Proposal.



13. Sustainability

Wellcome is committed to procuring sustainable, ethical and responsibly sourced materials, goods and services. This means Wellcome seeks to purchase goods and services that minimise negative and enhance positive impacts on the environment and society locally, regionally and globally. To ensure Wellcome's business is conducted ethically and sustainably, we expect our suppliers, and their supply chains, to adhere to these principles in a responsible manner.

14. Wellcome Contact Details

The single point of contact within this RFP exercise for all communications is as indicated below;

Name: Alyce O'Connor
Pronouns: She/Her
Role: Procurement Officer
Email: a.o'connor@wellcome.org