British Neuroscience Association

Under Pressure: UK Preclinical Neuroscience at a Crossroads

FOREWARD

Over the past decade, there has been a prevailing move by funders, both in the UK and abroad, to focus science towards tackling particular health and societal challenges. The reasons behind this might, at first glance, seem entirely understandable. Mental health illnesses account for ~13% of the global burden of disease and are a leading cause of disability worldwide, and it is estimated that 1 in 3 people born in the UK today will face a diagnosis of dementia. Developing effective therapeutic strategies for these and other neurological and psychiatric conditions is therefore a research imperative, and the UK has been at the forefront of this field.

Yet, experience has repeatedly shown us that the most important breakthroughs are often built on decades of fundamental *preclinical* research, driven by curiosity to understand biological mechanisms and without foreknowledge of what use they might bring in the future. As a recent prominent example, several vaccines that have protected countless people from COVID-19 were founded on years of careful work in virology and structural biology to understand messenger RNA. In neuroscience, pioneering research in the late 20th century to understand the relationship between the activity of populations of cortical neurons and limb movements in animal models was instrumental in enabling the development of the neuroprosthetic devices now giving hope to people suffering from paralysis. It is highly probable that some aspect of the preclinical neuroscience research of today will play a crucial role as the foundation for new treatment approaches of the future.

The British Neuroscience Association (BNA), as the UK's foremost neuroscience organization, strongly champions the discipline in its entirety, and my role as Trustee for Preclinical Neuroscience at the BNA is to advocate for this research area. It has therefore been concerning to hear reports of funding insufficiencies, career insecurity and excessive bureaucracy that are increasingly impacting preclinical neuroscience researchers. These issues risk undermining morale and jeopardizing the UK's longstanding status as a global leader in this critical field.

To better understand the current landscape for preclinical neuroscience research in the UK, in 2023 the BNA invited responses from the research community to a survey covering their perceptions on how preclinical neuroscience is supported, funded and regulated. The results, from 122 researchers, make for sobering reading: while most report a desire to stay working in this field, there is widespread concern about the cumulative challenges facing this community that are eroding their ability to sustain preclinical neuroscience research programmes.

In the report, we detail these key concerns, and how this could impact the UK's ability to sustain its neuroscience ecosystem. We then describe how the BNA plans to support this community. Finally, we outline a set of 10 concrete steps that UK research funders, institutions and the Government should take to ensure the UK has a thriving preclinical neuroscience research environment that can attract and retain the brightest talents.

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EXECUTIVE SUMMARY

The UK needs to maintain a robust and thriving preclinical neuroscience research environment

Preclinical neuroscience research plays a pivotal role in uncovering fundamental biological and psychological processes related to brain health and disease, and in helping translate these discoveries to tackle some of our most pressing health challenges. Many of today's most promising and innovative clinical treatments that are already benefiting patients with conditions affecting the brain and nervous system, including neuroprosthetics, gene therapies and immunotherapies, are the result of years of meticulous, curiosity-driven preclinical work. Therefore, a robust and thriving preclinical research environment is essential for laying the groundwork for future treatments for a wide range of brain disorders, including neurological and psychiatric conditions.

The UK has a distinguished record of cultivating foundational preclinical neuroscience research. However, the overriding sentiment of the majority of preclinical neuroscience researchers surveyed by the British Neuroscience Association (BNA) is one of dissatisfaction with how the UK environment supports this research, with around 1 in 8 actively considering leaving the field in the next 5 years. We believe that funders and the UK Government need to make preclinical research a priority.

Preclinical neuroscience needs prioritised research funding that reflects the costs of the work

Neuroscience researchers surveyed by the BNA do not believe there is sufficient funding available for preclinical research, with 74% of those surveyed highlighting this as a major barrier in the UK, and just over half concerned by a lack of funding streams to support this type of research. Rising costs of preclinical research exacerbate these challenges, with nearly two-thirds of researchers citing this as a significant issue. Many also struggle to balance grant writing with other job responsibilities. Additionally, a sizable portion reported difficulties accessing necessary support and equipment.

We recommend that research funders look to prioritise and protect funding of basic and preclinical research within their funding calls. Additionally, we strongly encourage them to reduce the administrative burden for researchers seeking this funding, for example by clearly specifying which Research Council or Funding Stream is appropriate to support preclinical neuroscience projects.

Preclinical neuroscientists need more support to ensure sustainable careers and thereby prevent the loss of key skills

Despite a strong desire to continue in research, many researchers feel insecure about their positions and unsupported by funders or their institutions, impacting career sustainability. Three-quarters of respondents felt funding agencies and institutions are not actively supporting long-term maintenance of skilled researchers. Additionally, 58% of respondents reported difficulties in recruiting or retaining staff, a situation exacerbated by the high visa costs for attracting research talent from abroad to fill roles.

We recommend that research funders and institutions prioritise the development of programmes to support long-term retention of skilled preclinical neuroscience researchers. To ensure the UK remains an attractive destination for this work, the stipends and salaries for postgraduate and post-doctoral researchers should be reviewed, and the visa system for international researchers revised to enable preclinical research talent to be more readily recruited.

The regulatory environment needs to become more facilitative for preclinical research

Stringent regulations for preclinical research involving animals ensure ethical standards but also create operational burdens. Researchers in our survey reported issues with increasing regulatory processes, including inconsistent requirements and bureaucratic delays.

We recommend that the current licensing and regulation process be standardised and streamlined, with a focus on evidence-based regulations that improve animal welfare.

INTRODUCTION

Research into the nervous system is crucial for understanding processes such as sensation, memory and emotion, which are core components of human experience and animal behaviour. The UK has long been a global leader in this critical field. Advancing our knowledge of these fundamental processes is not of significant scientific interest, but also crucial for developing new treatments for neurological and psychiatric disorders, which are among the most pressing health challenges we face today.

However, the complexity of the nervous system makes neuroscientific inquiry inherently highly challenging. Despite an explosion of knowledge over the last half century, we are just scraping the surface when it comes to understanding many of its essential functions. Drug discovery and development can often be a long, costly, and high-risk process – taking around 12 years to discover, develop and test a new medicine, at an average cost of £1.15 billion to research and develop one new medicine from thousands of candidates.[1]

Preclinical neuroscience research – which we define to include all stages of research into disorders of the brain or nervous system, from basic research characterising how fundamental processes work in healthy animals through to research focused on identifying and testing potential treatments, that occur prior to testing in a human clinical setting – represents an essential part of this research pipeline. It can be considered a 'translational bridge' that enables basic research to be taken to a clinical setting.[2]

Since the mid-2000s, there have been revolutionary advances in the methodological tools available to study the brain. However, the state-of-the-art equipment needed to capitalise on these advances comes at a significant cost, both for the hardware itself and, just as importantly, for teams of skilled researchers required to generate and analyse the complex data. This development has coincided with a shift in both the UK[3] and overseas[4] towards funding applied, goal-oriented research at the expense of basic discovery research. Alongside this, there is widespread dissatisfaction among researchers across the UK academic sector caused by insecure contracts and low pay.[5] All these factors have the potential to imperil the UK's preclinical neuroscience research pipeline.

In order to better understand the current environment for those researchers working in this sector in the UK, the British Neuroscience Association (BNA) invited responses from the research community to participate in a survey on preclinical neuroscience. The survey gained 122 responses from researchers[6], the majority BNA members, who covered a range of fields and career stage across preclinical neuroscience (Figure 1) – mostly focused on either basic research examining fundamental mechanisms in healthy animals (including humans) to increase knowledge of brain function, or basic preclinical research.

Survey dated collected online through Survey Monkey between 21/04/2023 and 21/09/2023, receiving 134 responses. As this was intended to be a survey of UK neuroscience researchers, we removed the following from the analysis: 2 undergraduate responses, 1 that was not a neuroscientist, and 9 that only provided responses to the initial demographic questions before exiting the survey.

The survey was launched in response to concerns raised through the BNA's Council that the preclinical research environment within UK neuroscience has in recent years become increasingly challenging. This report provides a clearer picture of the perceptions and concerns within the preclinical neuroscience community, and highlights the necessity of considering the wider implications of eroding the preclinical neuroscience research base for the overall translational pipeline.

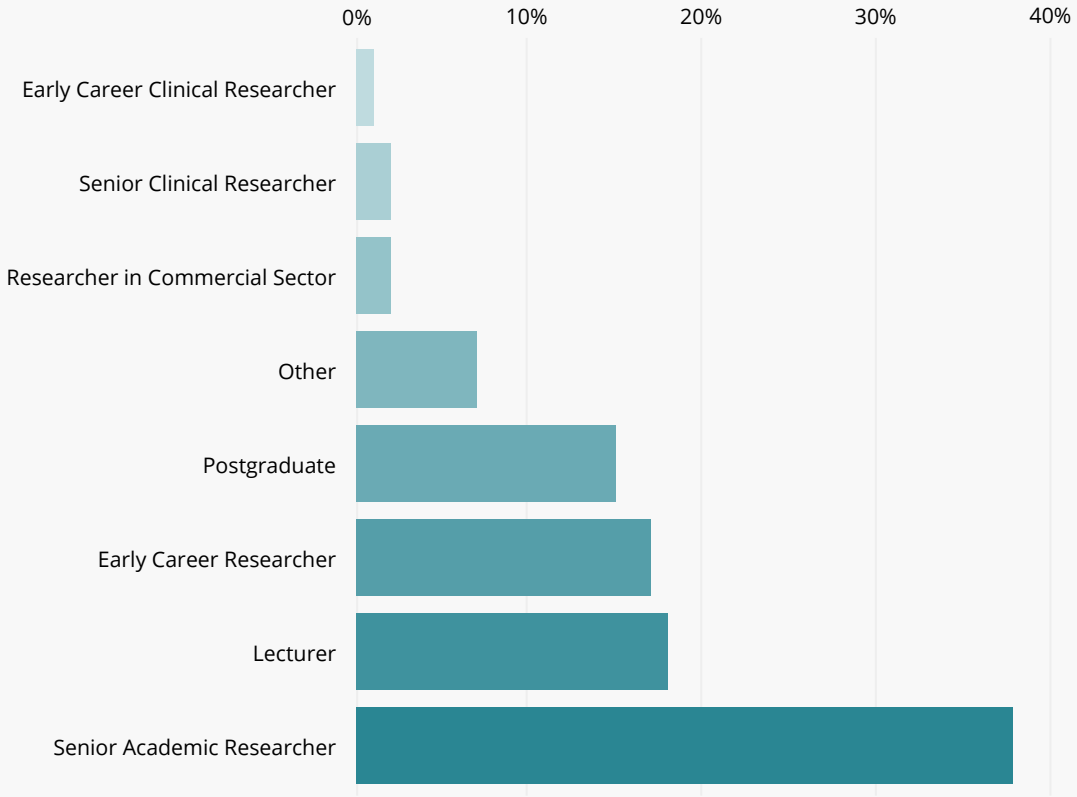


Figure 1. Survey Respondent Demographics

How researchers view the UK environment for preclinical neuroscience

The UK has a long history of supporting groundbreaking preclinical neuroscience research. Many historical foundational advances in our understanding of the brain have been made by UK-based neuroscientists, such as Charles Sherrington's discoveries into how neurons communicate and John O'Keefe's discovery of place cells in the hippocampus, which revolutionised research into spatial memory and navigation. This prominence is underscored by the fact that 15 of the 47 recipients of the prestigious Lundbeck Foundation Brain Prize[6] are affiliated with UK research institutions.

A recent example of where such preclinical research was pivotal to a discovery of great potential clinical significance was the award of the Brain Prize to Adrian Bird and Huda Zoghbi for their work on Rett Syndrome, a genetic disorder affecting brain development. Notably, this research began as entirely basic research into DNA methylation, a factor that regulates gene expression. This then led on to the discovery that the effects of Rett Syndrome, and potentially other related disorders, could be reversed in mice even at a late stage in the condition. This finding has triggered an explosion of interest from companies in the development of gene therapies to treat human brain disorders.

However, the current outlook for the UK suggests an environment where preclinical neuroscientists appear less optimistic about the support in place to enable the world-leading discoveries of the future. In total, 60% of researchers were unsatisfied with how the UK supports preclinical research. Less than a quarter of researchers described themselves as satisfied (Figure 2).

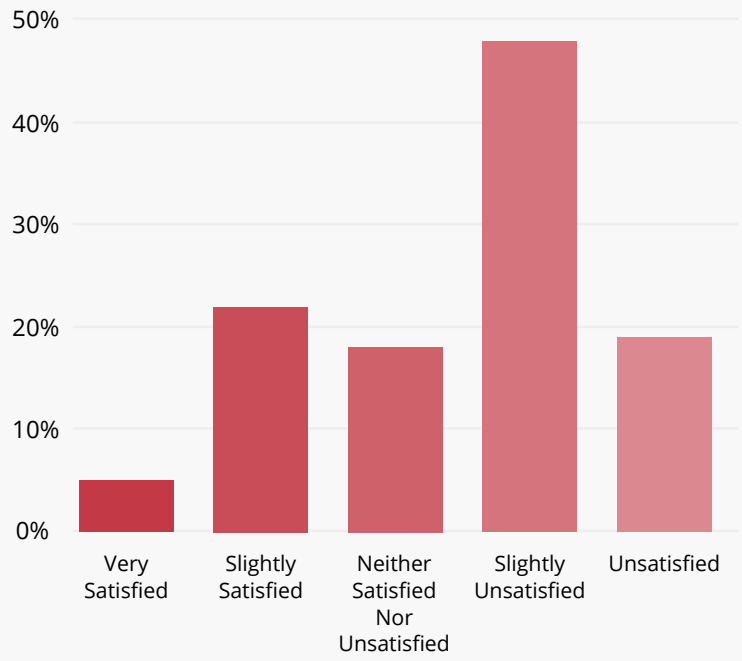


Figure 2. What is your overall feeling on how the UK currently supports preclinical research?

In the survey, we presented several perceived barriers to conducting preclinical research in the UK and requested respondents also highlight their own challenges. The most frequently cited issues, selected by over half of the researchers surveyed, related to the funding landscape for preclinical research (Figure 3). Key issues identified were:

74% Insufficient funding available for preclinical research

63% The increasing costs of conducting preclinical research

54% Lack of clarity regarding funding call eligibility for preclinical neuroscience projects

A considerable proportion of respondents also considered regulation, personnel shortages, and a lack of support from institutions and funders in general to be barriers to conducting preclinical research in the UK. All of these factors are contributing to the overall lack of satisfaction amongst the preclinical neuroscience research community at how the UK currently facilitates this vital work.

These barriers have a significant impact on individual researchers' career intentions. While around 70% expressed a desire to remain in preclinical research over the next 5 years in spite of the challenging environment, around three-quarters of those surveyed did not think that their institutions or research funders were actively supporting the long-term retention of preclinical neuroscience researchers.

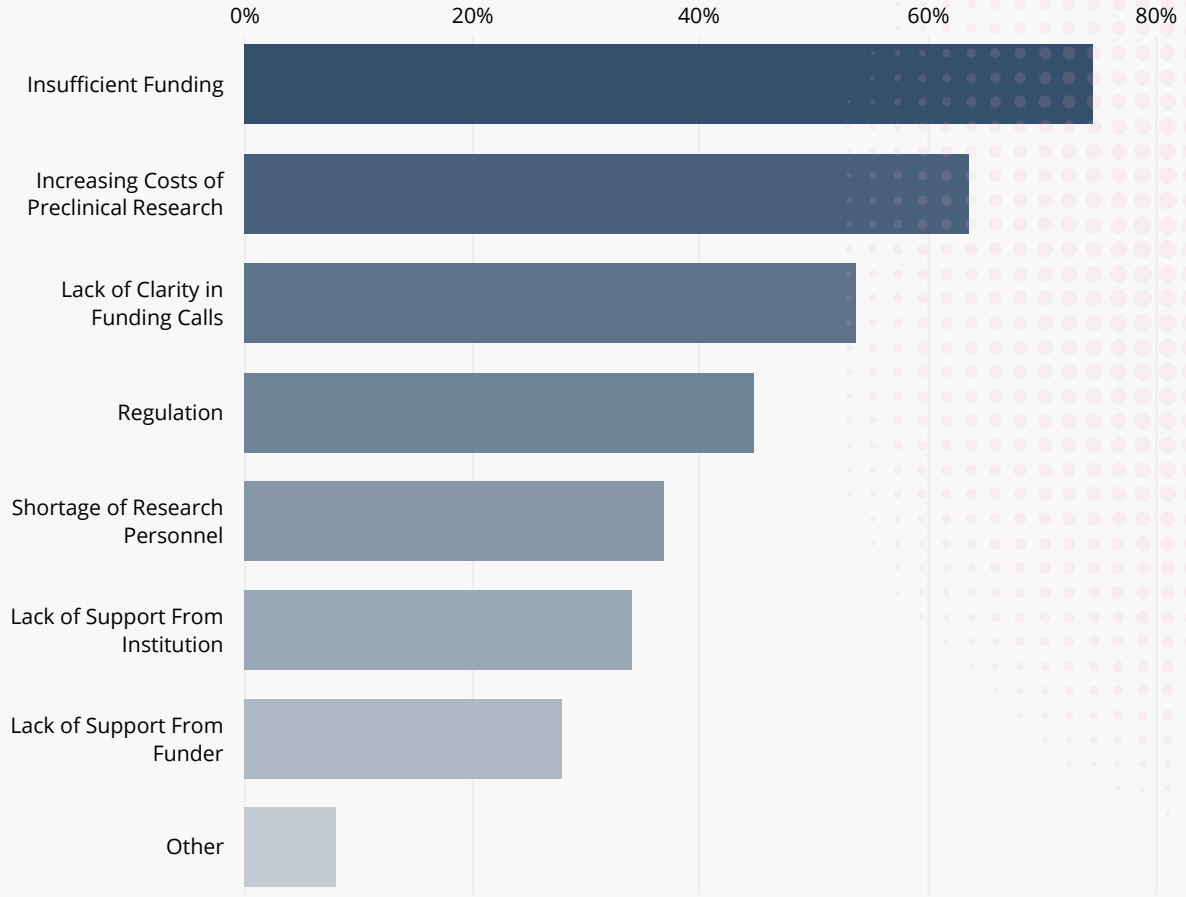


Figure 3. Barriers to conducting preclinical research in the UK

In the sections that follow, we look more closely at some of these barriers and some of the specific aspects that have contributed to these perceptions amongst the researchers we surveyed of the UK being a challenging environment in which to carry out preclinical research.

Funding and support for preclinical neuroscience research

The UK has a diverse funding landscape for research, primarily funded through a combination of public funding sources, medical research charities, and industry. One of neuroscience's biggest challenges is that the field has been under-funded compared to other biomedical fields based on societal costs. For example, within dementia research, for every £10 in health and social care costs for dementia, researchers received £0.08 funding. By contrast, cancer research received £1.08 funding for every £10 spent, a funding rate thirteen times higher than that for dementia.[7]

Through our survey, we sought to understand the sources of support for preclinical research in Higher Education Institutions and how respondents perceived changes in support over recent years. While the majority of our respondents viewed preclinical research to be valued by their institutions, this reversed when considering the support by funding agencies (Figure 4).

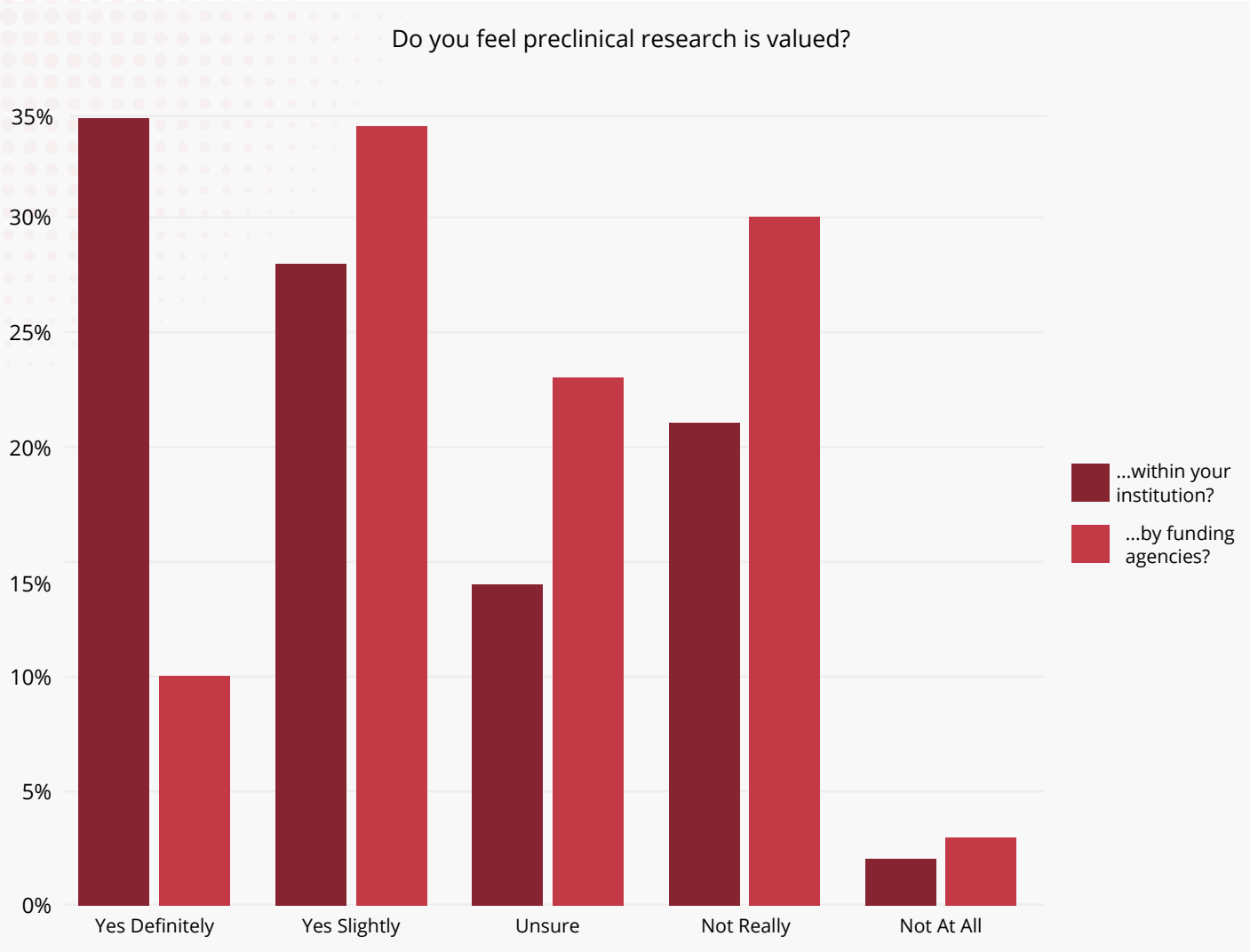


Figure 4. Attitudes to preclinical research

How research is funded

Amongst survey respondents, UKRI funders (including the Medical Research Council (MRC) and the Biotechnology and Biological Sciences Research Council (BBSRC), proved to be most common funding group, followed by charity funders including medical research charities and Wellcome Trust (Figure 5).

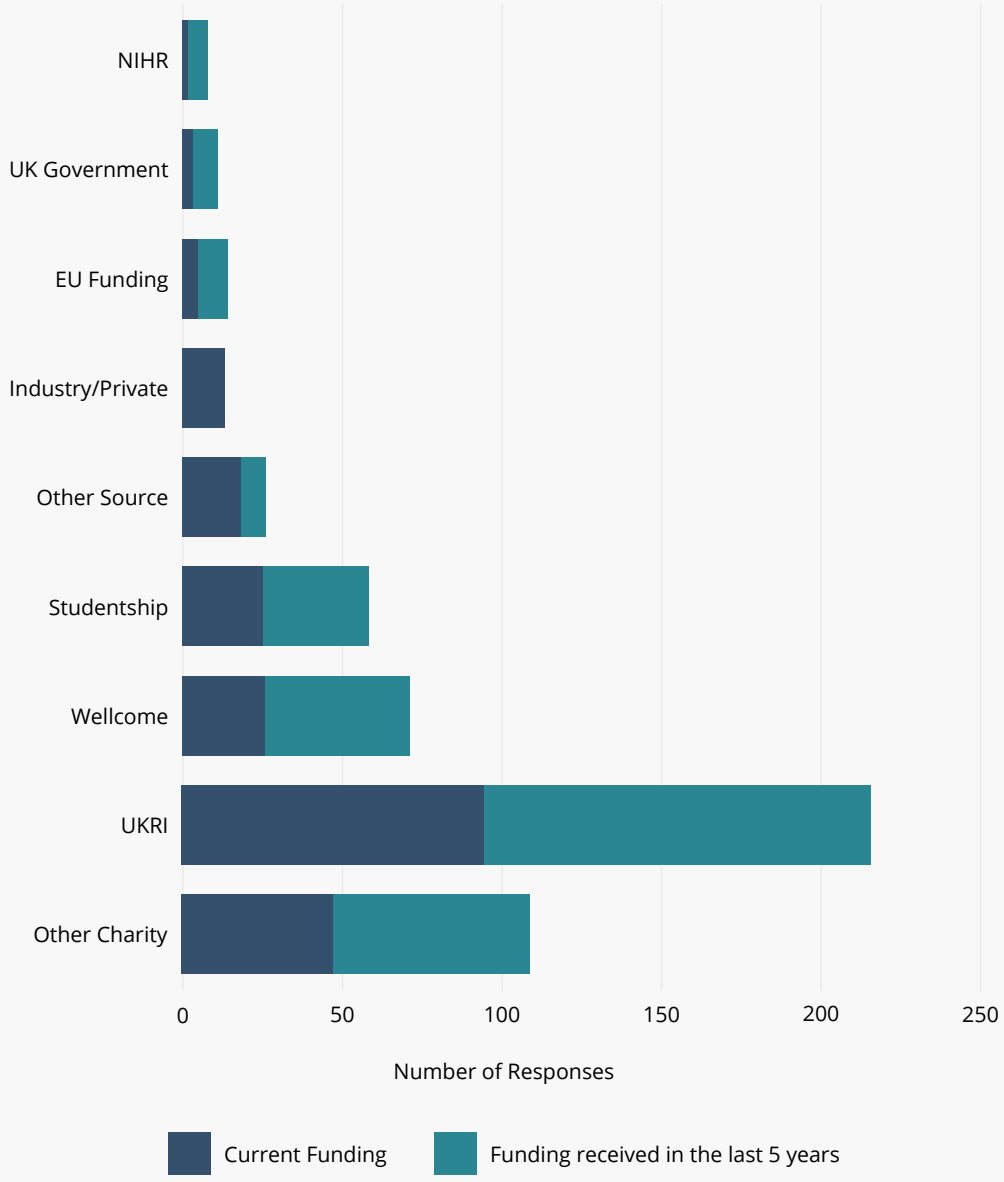


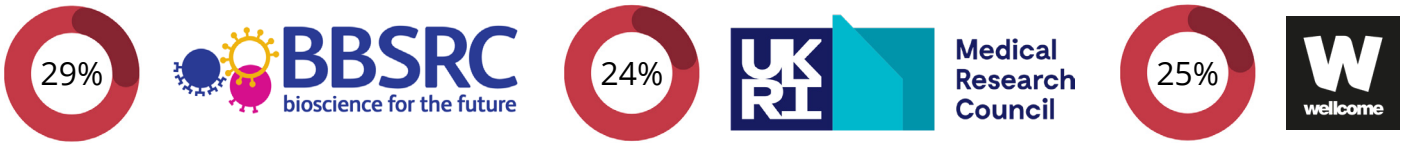
Figure 5. Sources of preclinical research funding

The graph shows current and recent (2018-2023) funders, with respondents sometimes selecting more than one active or previous funder. 122 respondents answered this question.

Notably, around 42% of respondents reported a lack of clarity about which funding body was most appropriate to support their research (n=92). This ambiguity arises because preclinical neuroscience studies often straddle the boundary between medical and basic science funding schemes – not deemed sufficiently clinically-focused for the former, yet too clinically-oriented for the latter. This can create difficulties for researchers seeking the right funding avenue for such work, which is further exacerbated by differences in the application processes and timing of different funding schemes.

Challenges and inefficiencies in securing research funding

Our survey respondents were asked to estimate their success rates for applications for research grants or fellowships over the past 5 years, reporting these to be relatively low, with around over half of researchers indicating that less than 25% of their applications for funding were successful (n=104). This tallies with the most recent data available, which indicates success rates in the UK of around:[8, 9, 10]



Those respondents that had applied for funding in the past 5 years were also asked to consider how much time on average it took to submit just one application for grant funding or a fellowship over that period. Though the range varied, with large-scale programme grants for example obviously taking a longer amount of time to complete, on average respondents suggested that applications take around 34 days to complete. Importantly, over three-quarters of respondents who had applied for funding over the past 3 years felt that the efforts required to apply for funding were difficult to accommodate into their jobs (n=89).

Prohibitive financial costs

Alongside the highly competitive funding environment, 63% of surveyed researchers identified the increasing cost of conducting preclinical neuroscience research as a major challenge (n=112). As highlighted by Eve Marder (2013)[11], state-of-the-art research increasingly relies on having access to sophisticated but often highly expensive equipment. Crucially, the true cost of such equipment encompasses not merely the purchase price, but also the retention of the skilled researchers required to enable effective data collection and analysis. The burden on preclinical neuroscience research can be exacerbated by the use of animals, which carries a number of financial costs – including: Purchasing the animal stocks, Potential import costs, Breeding, Housing costs at the institution, Associated staff, Veterinary costs and Home Office licenses.

The BNA supports its members in their use of humane and appropriate animal research for scientific and medical progress when no alternative is available. We believe that research using animals is necessary to gain a fundamental understanding of the nervous system, and for the discovery and development of new products for the diagnosis and treatment of neurological and psychiatric disorders.

While this survey did not provide a detailed set of data on preclinical research costs over time, respondents provided some anecdotal evidence on examples where the issue of the financial cost of preclinical research involving animals has become particularly difficult to overcome.

> “The escalating costs for animal work mean grant applications can’t compete – either with other scientists worldwide, or with non-preclinical research in UK.
>
> - Senior Academic Researcher working on applied preclinical research

> Animal work is prohibitively expensive at institutions without external funding.
>
> - Senior Academic Researcher focusing on basic research

> There is limited funding to cover animal research from PhD studentships, and it is difficult to compete with human/cellular projects for tight funding from funders (especially charities).
>
> - Senior Academic Researcher focusing on basic research

A number of respondents highlighted that the issues of rising costs for research are compelling them to contemplate leaving preclinical neuroscience research.

What action would generate the biggest improvement in the funding process for preclinical research?

- Streamlined application processes focusing on the core science.
- Explicit recognition and support from clinical' funding bodies (MRC, research charities) that preclinical research is critical for their mission.
- Targeted support from funders for fundamental research relevant to diseases for which the clinical impact and patient benefit may not occur for years, if ever.
- Allowing re-submission of highly ranked but unsuccessful grant applications.

Sustaining careers in preclinical neuroscience research

Preclinical research offers diverse career paths that vary based on research focus and professional experience. A career in preclinical research typically involves extensive training lasting many years, including advanced degrees and postdoctoral fellowships. Despite the vast majority of those researchers we surveyed wishing to remain in this field, concerns around job insecurity and low pay are threatening the long-term sustainability of preclinical research careers.

Postgraduate research careers have been the subject of concerns over the stipend levels, with UKRI set to review how it sets its stipend for students and the wider support that it provides, particularly for those with disabilities and caring responsibilities.[12]

> I've spent a decade training, and I still earn less than junior management in a supermarket. I love my job, and the work I do, but it's becoming financially unviable to continue it in the UK.
>
> - Postgraduate researcher in basic preclinical research

Challenges in staff recruitment and retention

The shortage of research personnel was identified by those we surveyed as a key barrier to preclinical neuroscience research in the UK. Those involved in staff recruitment reported significant challenges, with around 60% highlighting it was currently either not very or not at all straightforward to retain and recruit staff for their research group (Figure 6, n=89). This mirrors broader challenges across the research sector as a whole where many fields report that they struggle to find the people and skills they need, with the UK Government estimating a need for at least an additional 150,000 people in the UK R&D workforce by 2030.[13] Strikingly, over three-quarters of our respondents felt that neither HEIs nor funding agencies actively support the long-term retention of skilled preclinical research scientists. This is particularly important as the questions addressed and techniques used in preclinical neuroscience become ever more complex, often requiring highly skilled teams to undertake the research.

Figure 6. Challenges in staff recruitment and retention

Some of our respondents specifically highlighted the financial challenges that researchers working in preclinical research face. This too reflects the sector-wide challenges – the University and College Union report a substantial proportion of its members are considering leaving academic research due to pay and working conditions[5] , while concerns have been raised that PhD studentships have not kept pace with cost-of-living pressures or with industry salaries.[14]

> There is very bad pay for academics at all levels. This does come with fantastic flexibility, but with the cost of living crisis I would consider applying for higher paying jobs.
>
> - Early Career Researcher in basic research

Recruitment is also being impacted by the UK's visas system, affecting the UK's ability to recruit research talent from overseas for areas such as preclinical neuroscience. Analysis from the Royal Society has underlined the high visa costs for researchers and innovators coming to the UK, which are up to seventeen times higher than the average for leading research nations – increasing 126% since 2019, with upfront costs higher than all other competitors.[15]

> The [post-Brexit environment], cost of living crisis, extortionate and uncontrolled rents and poor postdoc wages are preventing talented scientists with valuable preclinical skills from coming to the UK, and are causing many to leave for countries that value them.
>
> - Senior Academic Researcher in applied preclinical neuroscience

Regulatory challenges for preclinical neuroscience

A significant proportion of survey respondents identified regulatory challenges as a major obstacle to conducting preclinical research in the UK. Specifically, 45% of participants (n=112) cited regulation as one of the primary barriers in their work.

A key area of regulation in this field involves *in vivo* studies requiring the use of animals. Such research must adhere to a rigorous regulatory framework designed to ensure ethical treatment of animals, researcher safety, and scientific integrity. The UK is widely considered one of the strictest regulatory regimes in the world for this type of research, with licensing currently enforced by the Home Office. Researchers must obtain licenses and approvals before commencing studies, and they are subject to regular inspections and reporting requirements. The vast majority (88%) of researchers in our survey held either a Project Licence (PPL) and/or a Personal Licence (PIL) to work with laboratory animals (n=103).

These stringent regulations ensure that preclinical research is conducted responsibly, and the BNA strongly endorses the principles of the 3Rs principles of the National Centre for the Replacement, Refinement, and Reduction of Animals in Research (NC3Rs) where every effort must be made around replacement, reduction and refinement of the use of animals in research wherever possible.

We sought to investigate anecdotal reports from our members suggesting that the regulatory regime has become increasingly burdensome and bureaucratic in recent years. This trend appears particularly pronounced following changes to regulation, compliance and licencing procedures within the Home Office's Animals in Science Regulation Unit (ASRU). Our focus was on understanding how these have impacted preclinical neuroscience research in the UK.

Red tape and stress in animal research

Respondents generally viewed their institutions' regulation and governance of animal research favourably. On average, they rated these systems 7 out of 10 for their effectiveness in ensuring best practices. However, the score was less favourable when Home Office regulation and governance was considered. Changes to process and requirements of licence holders have been reported as having significant consequences for institutional staffing and arrangements in some centres[16]. Respondents to our survey scored the Home Office an average of 5.9 out of 10 for how its current regulations ensure best practice in animal research, and 51% believed that its recent regulatory changes had made the conditions for conducting preclinical research in the UK worse, while only 12% perceived an improvement (n=100). Notably, there is no evidence to date that these changes have had a positive effect on animal welfare outcomes.

Respondents specifically criticised:

- Highly centralised regulation and high levels of bureaucracy involved with licencing.
- The speed at which feedback is provided on applications and amendments for project licenses, and when reporting potential unexpected events.
- The move away from Home Office Inspectors assigned to institutions, leading to inconsistent advice and a lack of standardisation.
- A lack of knowledge and experience of preclinical neuroscience research within the Home Office Inspectorate.

These additional burdens for preclinical neuroscience researchers using animal models come on top of a general accumulation of institutional bureaucracy[17], further eroding the time available to conduct research. Moreover, the regulatory strains placed on PPL and PIL holders disincentivise researchers to continue with *in vivo* animal work, placing additional drains on the skilled talent pool for preclinical neuroscience research.

> There have been a number of changes to process and requirements of licence holders which have had significant consequences for institutional staffing and arrangements in some centres. The need for an essential regulatory function and effective regulation to assure animal welfare is not questioned however, there is a perception that this new additional burden and bureaucracy is not supporting such activity and may be a distraction.
>
> - Independent Review of Research Bureaucracy – Final Report (2022)

POWERING UP PRECLINICAL RESEARCH

The UK has historically been a world leader in preclinical neuroscience, supporting research that has earned multiple Nobel and Brain Prizes. Given the technical expertise required for this research, and the time needed to train preclinical neuroscience researchers, any erosion of this field would have lasting ramifications for the UK's ability to maintain its leadership in this crucial endeavour.

Neuroscience researchers working in a preclinical setting have expressed a strong desire to remain in this field, but have considerable concerns about the adequacy of current support in the UK. To address these concerns, the BNA will leverage its position as the largest UK organisation connecting, representing and promoting neuroscience and neuroscientists, along with its experience in community building and sector development.

The BNA pledges to:

- Continue to advocate for the crucial importance of a thriving preclinical neuroscience research landscape within the UK.
- Engage directly with policymakers and key stakeholders, and collaborate with organisations such as the Royal Society of Biology's Animal Science Group and the UK Bioscience Sector Coalition, to advocate for efficient regulation of animal research.
- Support and promote key preclinical neuroscience skills training, champion innovation and continue our activities to support best practice for conducting neuroscience research.
- Facilitate career development opportunities for preclinical neuroscientists and foster partnerships between researchers in this field and clinical researchers by drawing on our cross-sector connections, for example our Building Bridges Between: Industry and Academia initiative.

To support us in our efforts and to foster an attractive and sustainable environment for preclinical research, the BNA calls for institutions, funders and the UK Government to implement the recommendations detailed below to sustain the UK as a leading global location for preclinical neuroscience research.

Addressing the need for prioritised research funding that reflects the cost of the work

Researchers report substantial challenges with securing adequate and sustained funding for preclinical neuroscience research at a time of increasing costs, particularly for *in vivo* animal work. They cite insufficient funds, a perceived deprioritisation of preclinical research in the funding system, a lack of clarity over appropriate funding streams for preclinical neuroscience research, and an excessive administrative burden in grant applications. Many report the process both time-consuming and unproductive, leading some to question the future viability of staying in the field.

We recommend that:

- Research funders, including research councils and charities, should provide additional funding for preclinical research within their existing neuroscience research funding calls to reflect the increased costs of this work. Consideration should be given to schemes providing core funding for key technical staff.
- UKRI should align and clarify their neuroscience funding calls and application processes so that preclinical neuroscience research projects can be directed towards the grant panels with most relevant expertise. Research funders should also facilitate open dialogues between researchers

and programme managers to ensure preclinical neuroscience research proposals are appropriately targeted and supported.
- Research funders should streamline the application processes to reduce administrative burdens for researchers, and implement resubmission options for strong proposals that are not initially funded.
- Institutions should ensure that researchers have dedicated time within their job roles to prepare competitive funding applications.

Supporting the preclinical workforce

Teams of highly skilled research staff are the foundation for the preclinical neuroscience, yet this field risks losing valuable talent. Despite a desire to remain, key staff face challenges in maintaining their careers. At a post-doctoral level, this is primarily due to the uncertainty of short-term contracts, inadequate compensation, and onerous visa conditions. Postgraduate researchers have also felt the brunt of increased cost-of-living pressures, and need additional support to boost our future research workforce. If left unaddressed, this will markedly impact the UK's ability to be a world-leader in neuroscience research.

We recommend that:

- Research funders and institutions should prioritise the development of programmes to support a range of long-term, sustainable careers for skilled preclinical neuroscience researchers.
- UKRI should lead the way by expediting its review of stipends for postgraduate researchers to ensure additional support is provided that better reflects their contribution to UK research.
- The UK Government should develop a visa system that enables the UK to attract and retain preclinical research expertise, and reduce the disproportionate visa costs for talented international researchers.

Reducing the regulatory burden

Preclinical researchers are encountering increasing issues affecting their ability to conduct research, with concerns that this is stifling the UK's ability to lead in this area.

We recommend that:

- The UK Home Office should increase its in-house expertise in preclinical neuroscience to ensure its licensing and regulatory decisions are consistently evidence-based.
- The licence application process should be streamlined to reduce administrative burdens that do not benefit overall animal welfare.
- The inspectorate and institutions should work together to foster a more supportive, collaborative regulatory environment to reduce stresses and scrutiny felt by researchers while retaining the highest welfare standards.

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