

BSI Response to Call for Evidence from the APPG on Diversity and Inclusion in STEM

The British Society for Immunology is the largest immunology society in Europe. We represent the over 4,200 immunologists working in academia, clinical medicine and industry. Our main objective is to promote and support excellence in research, scholarship and clinical practice in immunology for the benefit of human and animal health.

Summary of Key Recommendations

- Data capture around protected characteristics must be improved and the results made more transparent.
- Short termism in academia and research is hurting its ability to recruit from a diverse talent pool. There must be longer term career options.
- There are many aspects of the COVID-19 pandemic that have resulted in widening inequity in STEM. These must be addressed.

1. What are the demographics of STEM workers in your organisation or sector? Are there gaps in the quality of evidence, monitoring or reporting?

1.1 Our own collection of data on the demographics of our membership has been hampered both by the nature of the Data Protection Act 2018 and the restrictions that it places on what data may be collected and the purposes for which it may be used, as well as the voluntary nature of questions surveying protected characteristics. We do however make a conscious effort to ensure that there is representation of different protected characteristics on panels, advisory groups, and representing the society in the media and at events.

1.2 In a 2017 survey of our membership for the report '[Careers in immunology](#)', data was collected on gender and career level, finding that 55% of respondents were female, but only 4% of female respondents were at professorial/senior level, compared with 15% of men. There are inherent limitations to this data and its application to policy in the UK however, especially compared with a government agency were it to do the same, since our membership is not restricted to those working or living in the UK. While it can produce an accurate picture of our own membership, it is not a substitute for proper accounting of the UK STEM workforce by government.

1.3 The demographics of STEM workers in the immunology sector remain largely unknown. The Royal Society's report, '[A picture of the UK scientific workforce](#)' discusses at length the definition of the scientific workforce and the opacity in how different STEM workers are defined continues as specialisation of expertise increases. For immunology, this means that there is not enough granularity in any of the data collected by central means, e.g. via the Higher Education Statistics Authority (HESA), the Annual Population Survey, or via the Office for National Statistics. Data capture is incredibly important as it provides an evidence base for working from and current restrictions and limitations are hindering the objective of making science open and accessible for all.

2. Where is there inequity across the different protected characteristics and how are different communities impacted across different:

2.1 Recent statistics released by the HESAⁱ have shown that there are glaring inequities in the academic sector, especially at senior levels of the workforce. These revealed that, out of the 22,810 academic staff employed at Professor level in the UK in 2019/20, only 28% were women, compared with 47% of academic staff as a whole and 51% of the UK population. Approximately 0.7% staff working at Professor level were black, compared with over 2% of academic staff overall and 3.3% of the UK populationⁱⁱ.

2.2 These data suggest that there are problems in either or both the recruitment or retention of these demographics at senior levels and we would suggest that the Government should conduct more analysis in order to elucidate the reasons for these disparities. These statistics also reinforce the importance of collecting data. Data capture is incredibly important as it provides an evidence base to work from and allows analysis of trends. Current restrictions and limitations on collecting these data are hindering the objective of making science open and accessible for all, and we urge that data collection occurs with more granularity. There are, of course, more characteristics to diversity than gender and race, but the paucity of data is even more pronounced for those, and this is another point that must be urgently rectified.

3. Where are there evidenced inclusive behaviours and policies within different organisations, subsectors, sectors and countries on:

3.1 Our members have expressed concerns that in the UK, retention of scientists working in academia is being obstructed by 'short termism' which is a symptom of the grants-based research system in which we operate. Since grants are made for limited periods, e.g. two years, those who need to think longer term or require more job security or stability are forced from the sector in order to find positions that can offer those attributes. This is a potential reason for the demographic disparities we see between protected characteristics at a more senior level in academia. In our report '[Careers in immunology](#)', we found that the biggest barrier faced by respondents in their careers was job security, even greater than lack of funding opportunities.

3.2 The United States has 'staff scientist' positions where jobs are attached to institutions rather than to grants or specific projects. These are separate from lectureships and confer a much greater degree of security to the researcher whilst allowing them to remain working in a lab environment. The advent of these positions on a similar scale in the UK, in our view, would have a significant part to play in tackling the systemic flaws in our research system which discourage retention of staff.

3.3 A good example of longer term investment in people and development of skills is the [UKRI Future Leaders Fellowship](#) and it is our hope that this scheme will be renewed.

4. Are there policies or activities undertaken by the UK Government, or its agencies, that advance or inhibit equity and inclusive cultures within the STEM workforce?

4.1 The BSI supports the UKRI's collection of data on different protected characteristics of grant recipients and awardees; this transparency is essential in shining a light onto what can be an opaque process. More widely disseminating these diversity data would be beneficial, however. These data do not at the moment include any information on socioeconomic background, which could be a useful category of information to collect also.

4.2 The UKRI also recognises in its [Research and Development Roadmap](#), published last year, that better research will be the product of a more diverse pool of talent. In that vein, we support efforts to diversify the STEM workforce through efforts such as the R&D People and Culture Strategy.

5. What are the impacts of COVID-19 on equity for STEM workers (including job and income security, contract type etc) in the short- and medium-term? Which communities, groups, organisations or sectors are being most impacted?

5.1 Our members report that the COVID-19 pandemic has had a large impact on equity in STEM workers. In the publication of papers, for example, it has been reported that men have found an increase in time and this has allowed them to be more prolific in their writing and publication. Women, however, have tended, generally, to shoulder more caregiving responsibilities, be this

home-schooling children or providing valuable help to elderly or vulnerable relatives and/or neighbours. These anecdotal reports have also been recounted in academic literature, including the [BMJ](#) and [Nature](#), with the latter reporting that between January and July 2020, women accounted for only one third of authors of papers published on COVID-19 itself. Many of our members have expressed support for the [San Francisco DORA Declaration](#), and the effects of the pandemic on equity in the STEM workforce need to have the result of increasing the impetus for achieving the objectives behind it.

5.2 There has also been particular concern from early career researchers, particularly PhD students and postdocs who may not be able to access labs and/or carry out the experiments that they need to conduct in the timeframe that has been allotted. There could be serious ramifications for the funding that is supporting their positions and/or for future career prospects. This is an issue which needs to be addressed urgently.

6. What are the implications and opportunities of new policies and employer action in the next 5-10 years following COVID-19 and Brexit? What will the future impacts be for communities, groups, organisations or sectors?

6.1 Many of our members have had to postpone or abandon research, especially that including human or animal trials, during the pandemic, with much of the lab capacity being devoted to COVID-19 research at the present time meaning that access to facilities allowing the continuation of pre-pandemic work is severely worked. There is concern especially, that this could have the most deleterious effect on the progression of current early career researchers. Another result of the pandemic has been the significant drop in income to medical research charities which fund hundreds of millions of pounds worth of STEM research every year; while the Government has provided some support, it is thought that this is not enough. Both these factors could contribute to more early career researchers leaving academia over the next few years and exacerbate issues of retention. There could also be an effect on the beginning of the STEM workforce pipeline as current undergraduates are no longer able to gain experience of working in a lab during their courses due to remote study. This may affect their career choice and negatively affect employability because of a dearth of practical experience or skills and have negative effects on the future of the life sciences economy in the UK.

6.2 The departure of the UK from the EU allows the Government to amend the Data Protection Act 2018 so that it diverges from the EU's GDPR regulations. There are opportunities here to make it easier to collect data on protected characteristics, which would be of enormous value to the STEM sector in particular.

6.3 The continued uncertainty around the status of the UK's association to the Horizon Europe programme is particularly unhelpful. The immunology community in the UK benefitted enormously from the streams of funding from the antecedent programme, Horizon 2020, and proper plans must be put into place for a scenario in which the UK does not associate.

ⁱ <https://www.hesa.ac.uk/news/19-01-2021/sb259-higher-education-staff-statistics>

ⁱⁱ <https://www.ethnicity-facts-figures.service.gov.uk/uk-population-by-ethnicity/national-and-regional-populations/population-of-england-and-wales/latest>