

Recommendation 5: The government should review the impact of Covid-19 on practical work in the sciences, at all levels of education. The review should consider the long-term impacts for these subjects, including progression into further study, employment prospects and how the delivery of the UK's R&D ambitions might be affected.

Recommendation 6 - The impact of the pandemic, and of reductions to the teaching grant, should be monitored at subject level. Additional funding should be provided to universities, if necessary, and it should be ring-fenced for high-cost subjects such as the chemical sciences to ensure the long-term viability of chemistry departments and their ability to train the future workforce.

Recommendation 7- As the government considers options for increased investment in R&D, the UK government must set out transparently how increased R&D investment will translate into funding streams. This includes funding across different disciplines, challenge areas and types of research.

Recommendation 8 - UKRI should outline what criteria they used to prioritise assess and select proposals under their rapid research calls, including how this was informed by discussions with government relating to the ongoing management of the Covid-19 pandemic.

Introduction

We welcome the opportunity to share our global community's experiences of carrying out research and innovation during the Covid-19 pandemic and what learnings this experience may provide for future UK government R&D policy. We draw upon these insights in our evidence and recommendations.

Our response to this inquiry mainly focusses on the following points in the inquiry's terms of reference:

How have research and innovation in UK universities, businesses and other settings been affected by the Covid-19 pandemic, and how might they be affected by any lasting changes post-Covid?

How effective have measures adopted by the Government to support research and innovation, such as the support packages for innovative firms and university researchers, and the 'Ministerial University Research and Knowledge Exchange Sustainability Taskforce', been.

In the context of the Government's 'Research and Development Roadmap', what shorter-term measures can best support UK research and innovation in recovering from the disruption of the Covid19 pandemic and adapting to the post-Covid environment?

1. Collaboration, scientific meetings and networks

The onset and spread of the Covid-19 pandemic has resulted in travel restrictions around the world. For research and innovation, including that which is carried out by the chemistry community, one of the most prominent changes

1.1. Benefits of online scientific meetings

Initial observations from our own events suggest that a

awards and prizes for this career stage.³ Based on some of the feedback to date, we are acting to adapt some of our activities in an increasingly virtual environment including early career researcher speakers as

2. The effects on chemistry research and development in universities and research institutes

As for any discipline that involves practical science, the impacts on chemistry have mainly been felt through laboratory closures. Whilst in the UK context, laboratory working has been permitted throughout the duration of the pandemic (where safety measures could be put in place to support distancing), rapidly changing guidance from government at the start of lockdown and limited resources meant it was not possible to put measures in place to enable all practical work to continue under safe conditions during this period, and so some research was interrupted. Many universities had to quickly prioritise research labs that needed to stay open to carry out essential R&D, as well as ensuring that technical staff were able continue to carry out crucial maintenance and maintain health and safety standards. For those laboratories that were not able to continue working under the most severe phase of the lockdown (from late March), it is estimated that it may take several months for some

do not require lab space or specialist equipment and which have therefore been able to transition comparatively more effectively to home-based working.

Evidence from the community will be vital in determining the extent of the impact on research and innovation itself. The Department for Business, Energy and Industrial Strategy (BEIS) commissioned CRAC/Vitae, supported by UKRI and Universities UK, to seek evidence around the implications of the Covid-19 pandemic on the activities of researchers and research groups. Input was sought in the form of a survey.⁹ It was stated that the evidence gathered as part of this survey would

access and; efficient and prompt communication to those who could provide support to address the pandemic.¹¹

We were amongst stakeholders that fed back rapidly to government in the early stages of the implementation of the Coronavirus Business Interruption Loan Scheme (CBILS) and the Bounce Back

There are also other areas of potential longer-term impact on those in education and training now that will only fully emerge in the coming months and years. Examples include whether or not there will be knock-on impacts on future cohorts of new workers in industry and postgraduate chemistry researchers, if these come from a cohort of students

When considering the implementation of the R&D roadmap in the aftermath of Covid-19, the government needs to work effectively across departments to understand potential long-term consequences for the UK's ability to undertake R&D brought about by nearer-term changes in the institutions that train the researchers and innovators of tomorrow.

Recommendation 6 - The impact of the pandemic, and of reductions to the teaching grant, should be monitored at subject level. Additional funding should be provided to universities, if necessary, and it should be ring-fenced for high-

Recommendation 8 – UKRI should outline what criteria they used to prioritise assess and select proposals under their rapid research calls, including how this was informed by discussions with government relating to the ongoing management of the Covid-19 pandemic.

About us

With about 50,000 members in over 100 countries and a knowledge business that spans the globe, the Royal Society of Chemistry is the UK's professional body for chemical scientists, supporting and representing our members and bringing together chemical scientists from all over the world.

