

# Covid-19 impacts survey

## Summary report

March 2021

In November 2020, during the second national lockdown, the Royal Society of Chemistry (RSC) surveyed our UK-based members to understand the impact of Covid-19 on their work, education, and the future of the chemical sciences. There were 1,649 respondents, and their responses paint a picture of the areas that chemical scientists are concerned about as they face a second year of the impacts of a global pandemic.

Throughout 2020-21 we have been proud of the varied contributions from our community, and of chemistry's role in the global, multidisciplinary efforts to control and eradicate the virus. From a clean water supply to computer-aided drug design, chemical scientists of all kinds have worked hard to keep us healthy and safe.

Many in the chemistry community have been making their contribution to the global fight against coronavirus while working safely at home, despite the new array of challenges, both short- and long-term, this presents. And many others – often those designated as key workers by governments – have been going into their laboratories, offices and other workplaces to carry on essential work, even as the pressures of the pandemic have caused disruption and a need to quickly adapt.

This document is a summary report of the results, designed to present key findings and set out how the RSC is using the survey results to progress our work supporting the chemical sciences community. The full findings report is available [from our website](#). We are grateful to all those who took the time to respond to this survey, providing us with valuable insight into how Covid-19 has and will continue to affect our community.

### Key findings

- **Widespread adaptation to a changed environment:** In a challenging year, RSC members have worked hard to continue and adapt the way they do their jobs, and to continue their learning, in more difficult circumstances.
- **Greater concern among academics:** Academics are consistently more pessimistic about the impacts of Covid-19 than their counterparts in industry and other sectors. Academics typically report having experienced worse impacts so far than people in industry, and generally predict worse impacts of Covid-19 on their work, lives and the chemical sciences.
- **Personal job insecurity:** There is significant concern about job loss, and those who expect to be seeking a new job in the coming year are very likely to expect the pandemic to have a negative impact on their ability to find one.
- **Negative impacts of lab access restrictions:** Restricted access to labs is having a negative impact on both research and education, and many in our community anticipate potential long-term impacts on the quality of scientific research and skills and career development for early career scientists.
- **New graduate job prospects:** Undergraduates and postgraduates (particularly those completing their studies in the next year) are very likely to expect Covid-19 to have a negative impact on their ability to find future employment, with many reporting that they have not been able to access suitable practical simulations effectively as a result of teaching moving online. Undergraduates in particular are concerned about developing the skills needed for future employment.
- **Developing international relationships:** Our community is concerned that Covid-19 may have a negative long-term impact on international scientific relationships, particularly when it comes to developing new relationships.

### Topics covered

- Laboratory-based research
- Online chemistry education
  - Perspective of university and vocational education teachers
  - Perspective of higher education students
- Prospects for students in higher education
- Employment prospects
- Job losses and job creation
- Scientific relationships
- Access to funding
- Caring responsibilities and productivity
- Increased challenges in the year ahead

## Challenges in the year ahead

Respondents in work or education were given a list of potential issues that may be an increased challenge for them in the following 6-12 months as a result of the pandemic, and selected all that applied. The most commonly selected issue was 'work/life balance', with concerns about scientific relationships and research laboratory access also selected by many [Fig 1]. Retired respondents were asked about issues that they considered would be increased challenges for *chemical scientists* in the following 6-12 months, with the most commonly selected issue being 'finding suitable employment', while lab access and job security were also often chosen.

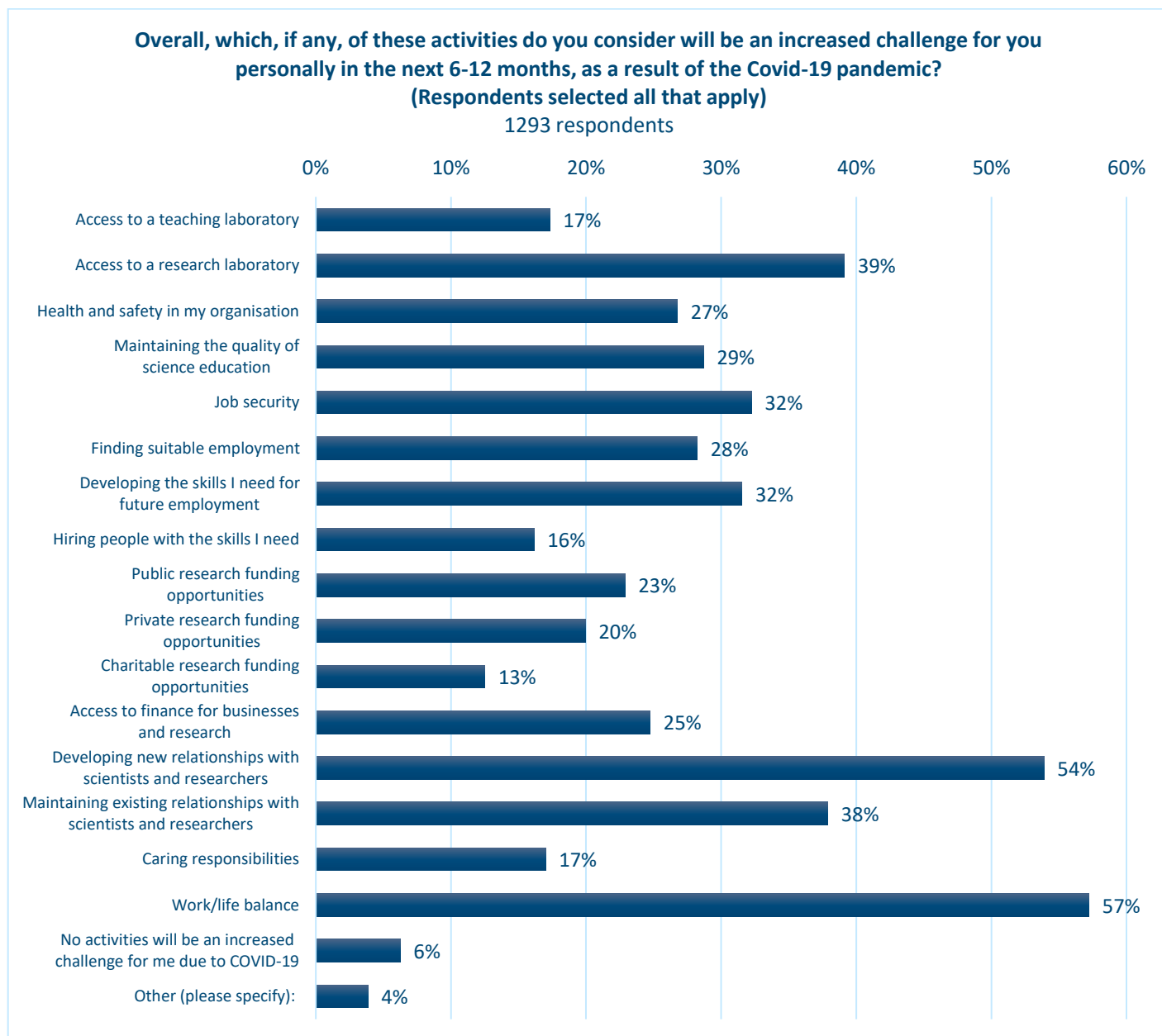


Fig 1

## Findings by area

### Laboratory-based research

The vast majority of respondents, who work in a laboratory or work for an organisation that has labs, reported some restrictions on lab access as a result of Covid-19. Respondents in academia were much more likely than those in industry and other sectors to report significant restrictions on access. In industry, respondents at larger organisations were more likely to report restrictions on lab access.

More than four fifths of respondents affected by lab access restrictions said their administrative and planning burden had increased as a result. Nearly one third of those affected said they anticipate a longer-term shift to more scientific work being done outside the lab as a result of Covid-19. The majority of those who expected this long-term shift said it would negatively impact on the research environment and make it harder to do rigorous or robust scientific research.

More than half of those affected by lab access restrictions said they were experiencing potential delays to research delivery, while nearly a third said they were experiencing a need to invest in new digital tools/technologies.

### Online chemistry education

#### *University and vocational education teachers' perspective*

The vast majority of respondents who normally teach, supervise, or support students in a lab said that some timetabled sessions had been moved online last term as a result of Covid-19 policy, with 23% saying that all timetabled sessions had been moved online. (Students were more likely than teachers to state that a higher proportion of timetabled sessions had been moved online. This may be due to differences in the sample population or different experiences.) Of those teachers who reported that some of their teaching had been moved online, three quarters said their workload had increased as a result, including more than a quarter who said it had increased by more than 10 hours per week.

Over a third of respondents who normally educate students in a lab said they had been doing more practical teaching online as a result of the Covid-19, with nearly three quarters of those feeling that moving practical teaching online was having a negative impact on the quality of their teaching.

#### *Higher education students' perspective*

The majority of undergraduates and postgraduates who would normally be receiving education in a lab said that more than 75% of their timetabled sessions had been

moved online as a result of Covid-19 policy, with nearly a third saying all timetabled sessions had moved online.

The majority said that the digital platform used by their university was effective. However, a majority also said that accessing library resources was less easy, and a significant number said they were less able to access staff and suitable practical simulations. 42% of respondents said that they had been receiving more practical education online as a result of Covid-19 policy and, although the sample size was small, there were indications that the majority of those receiving more practical education online felt it was having a negative impact on the quality of their education.

### Prospects for students in higher education

The vast majority of student respondents expect Covid-19 to have a negative impact on their ability to find future employment, with a third anticipating a "very negative" impact [Fig 2]. Postgraduates are more pessimistic than undergraduates about prospects, and students due to complete their studies in less than a year are more pessimistic than those whose studies finish in more than a year. A third of postgraduate respondents said the pandemic has made it less likely that they will pursue further study upon completion of their current course.

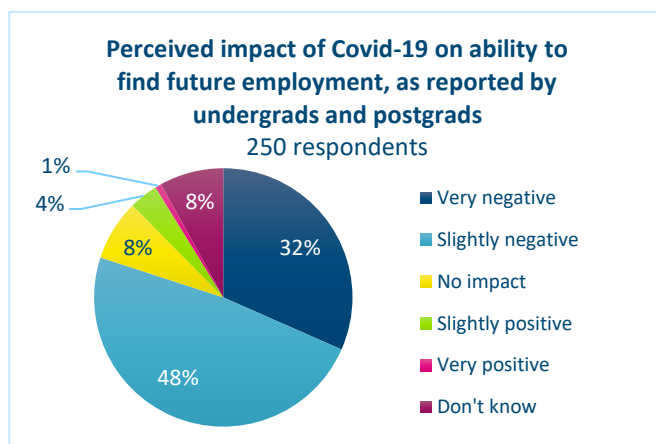


Fig2

### Employment prospects

Nearly one third of respondents said they were considering, or maybe considering, looking to find a new job in the chemical sciences in the next six months (for any reason), including nearly one fifth of respondents in academia who said they definitely were. Of those considering looking for a new job, the vast majority said they anticipated that Covid-19 would have a negative effect on their ability to find a suitable role.

Over a third of respondents said that they were more concerned about losing their job than they were a year ago due to the pandemic, with nearly half of those in academia saying so [Fig 3]. Furthermore, one fifth of respondents said they were considering, or maybe considering, retraining for a new career as a result of the pandemic, with respondents in academia much more likely to say so than their counterparts in industry.

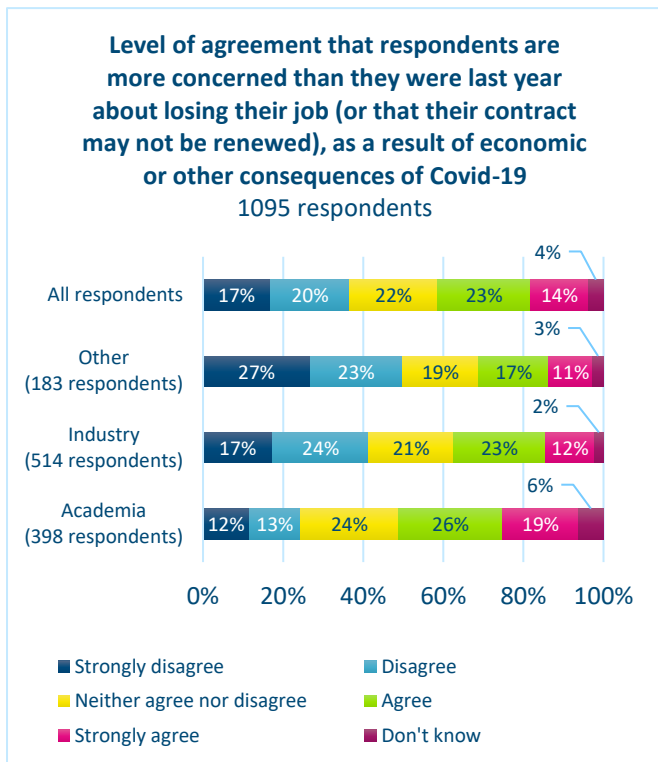


Fig3

## Job losses and job creation

One fifth of respondents said that the chemistry workforce in their team or department had already been reduced as a result of Covid-19, including nearly one third of those in academia. Respondents in academia were also much more pessimistic than those in industry and other sectors about staffing prospects for the coming year, with over a third of academics anticipating further job losses. Just under half of respondents said they expect that Covid-19 has made it less likely that staff will be hired in their team in the coming year.

We analysed the regional breakdown of responses relating to job losses and creation in light of findings from the RSC

report [Chemistry's Contribution](#), published in 2020, that showed regional variations in employment trends in the chemistry workforce from 2013-2019. Responding to this survey, respondents in Yorkshire and the Humber, the East Midlands, and Scotland tended to be most likely to report Covid-19-related job losses thus far and anticipate more in the year ahead.

## Scientific relationships

Respondents were asked about their expectations of how Covid-19 would affect their ability to develop and maintain scientific relationships in the long-term, considering their relationships with scientists and researchers outside their own organisation internationally, in different disciplines, in industry, and in academia.

Out of all options presented, respondents were most likely to anticipate a negative long-term impact on their ability to develop new relationships with scientists and researchers internationally, with over two thirds of respondents saying so.

## Access to funding

The majority of respondents expect that Covid-19 will lead to fewer opportunities to access funding for research that is not Covid-related in the next two years, with the most concern about access to charity funding.

## Caring responsibilities and productivity

28% of respondents said they have caring responsibilities, including 26% of female respondents and 29% of male respondents. Of those with child caring responsibilities who were affected by challenges accessing childcare during lockdown, three quarters reported a decrease in productivity as a result, with women more likely to report a significant decrease in productivity.

Nearly three quarters of respondents affected by challenges accessing care for a child or adult reported a decrease in their productivity as a result. Respondents in academia were much more likely to report a significant decrease than those in industry, and respondents in mid-career were more likely to report a significant decrease than those with established careers.

## How we're using this data

We are sharing these survey findings with members, other science and professional bodies, and relevant Government departments and bodies. Not only do they show RSC member experiences during 2020, they also point to issues that Governments, funders and others need to help address. We are using the findings in our advocacy and influencing work and to inform our offer to members.

### Supporting students in higher education

The survey findings show that a large number of students have missed out on opportunities for in-person practical education, with some practical education moved online and many students perceiving a negative impact on the quality of their learning.

We used the survey data as part of the case we made to the Department of Education (DfE) that chemistry students who need access to labs for practical training and research projects should be in the first wave for a return to campus, ahead of the government announcement that students with practical requirements could return to campus from 8 March where safe. As a follow-up we are looking to influence them on how students' lost learning can be mitigated (school, vocational and university). Recognising the considerable impacts on the Higher Education sector, we work with its sector bodies and we are using relevant opportunities, such as policy consultation responses, to reiterate key asks for the chemistry community.

To support students who have already missed out on important practical experience, an outline proposal as recently been approved by our Trustees for the RSC to provide financial support to departments to enable provision of mechanisms for students to catch up on practical training. We are mindful that there will be variations in local and individual student circumstances, as well as issues related to inclusivity, and concern all round for staff and student well-being. RSC staff will continue to liaise with Chemistry departments to design support that is pragmatic and flexible.

RSC President Tom Welton has been in contact with Heads of Chemistry UK (HCUK) this year to provide updates on RSC work and to get their input on on inter-related aspects of lab closures and the impacts on practical training.

### Supporting career development

Over a third of working respondents said they had increased concerns about job loss as a result of the pandemic, and more than 40% of early career researchers identified likely increased challenges in 2021 of job security, developing the skills needed for future employment, and finding suitable employment. We are mindful of the need to support our community, particularly those in early career, with career progression

in the coming year, and we are ensuring our events, grants programme, and careers service reflect this need.

We have adapted our activities, for example by enabling virtual access to professional networks and developing online presentation opportunities at national and international conferences, particularly for the benefit of researchers who are in the earlier stages of their careers.

We awarded 27 members in UK and Irish research institutions with up to £10,000 each in our first round of our new [Research Enablement Grant](#), funding both new research which will accelerate member careers (particularly those at an early career stage), and projects disrupted by the Covid-19 pandemic where our funding will enable research to progress or be completed. Our [Research Fund](#) (changed in response to the current situation) also supported 40 members globally with up to £4,000 each for chemicals/consumables/equipment to undertake new research projects and progress their career during this challenging time. Both grants will be open again for applications in April 2021. You can keep an eye on the relevant pages on the RSC website to find out when they will be open.

The RSC careers service will also use the findings of this survey to inform its careers support to members, beginning with incorporating the insights gleaned into the development of our 2021 Pay and Reward Survey.

### Supporting researchers

With evidence from the survey showing widespread restrictions on lab access, and many respondents facing an increased workload and potential delays on research delivery as a result, we are continuing to seek ways to support those worst affected by this. This includes sharing the findings with UK Research & Innovation (UKRI) and making the case to them for a flexible and sympathetic approach to requests for deadline extensions. We are also emphasising that both Covid and non-Covid research are vitally important, so researchers need to be able to access funding for a range of research.

### Supporting carers

The survey findings show that people with caring responsibilities risk being disproportionately impacted by the challenges presented by Covid-19. The majority of respondents affected by challenges accessing care (for a child or adult) reported a decrease in their productivity as a result of the pandemic. We continue to promote our Grants for Carers and Assistance Grants schemes, supporting those with caring responsibilities or people with disabilities. These have been adjusted in response to Covid-19 to accept applications to cover the cost of assistance or support to attend online meetings, professional development or teaching responsibility.

## Supporting our community's wellbeing

Conscious of evidence that the majority of non-retired respondents anticipate work/life balance to be an increased challenge for them personally in the coming year, we will soon launch a Wellbeing and Listening Service to support those in the chemistry community with their mental health and wellbeing, and RSC members will be eligible to be referred directly for counselling support if needed.

## Supporting international collaboration

The survey shows that, while there are concerns about the longer-term impact of the pandemic on scientific relationships across the board, there is most concern about the development of new international relationships. The RSC has developed online conferences and converted previously planned physical meetings to a virtual format – for example, the Science Division Online Symposia and recent Faraday discussions.

We have also briefed UKRI and the Department for Business, Energy and Industrial Strategy on this issue, to urge them to use their position and contacts to support efforts across the wider sector and internationally to enable remote collaborations and networking.

## Access support

Below are links and information on how you can access some of the support described in this report.

- **Grants for Carers**  
Applications are currently open. [More information](#)
- **Assistance Grants**  
Applications are currently open. [More information](#)
- **Careers support**  
The RSC careers service offers support for members at every stage of their careers. [More information](#)
- **Research Enablement Grant**  
This will open for applications in April 2021. [More information](#)
- **Research Fund**  
This will open for applications in April 2021. [More information](#)
- **Wellbeing and Listening Service**  
This will be launched soon; please check our website and keep an eye on member communications for further information.