

COVID-19: reflections from a meeting of Academy Fellows

Report of a virtual workshop on 13 July
2020



The Academy of Medical Sciences

The Academy of Medical Sciences is the independent body in the UK representing the diversity of medical science. Our mission is to promote medical science and its translation into benefits for society. The Academy's elected Fellows are the United Kingdom's leading medical scientists from hospitals, academia, industry and the public service. We work with them to promote excellence, influence policy to improve health and wealth, nurture the next generation of medical researchers, link academia, industry and the NHS, seize international opportunities and encourage dialogue about the medical sciences.

Opinions expressed in this report do not necessarily represent the views of all participants at the workshop, the Academy of Medical Sciences or its Fellows.

All web references were accessed in August 2020.

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Summary

- In terms of **lessons learnt**, Fellows wanted the Academy to particularly advocate:
 - a **stronger role for UK public health**, supported by better investment.
 - a rapid transition from a centralised to a **local model of response** (particularly important for testing and data collection) to enable very localised interventions in response to future to spikes and waves.
- Academy **Fellows were very supportive of the role that their Academy has played** the communication of science (e.g. in the media in the early stages) and its rapid response policy projects. They reinforced the importance of the **Academy sharing its expertise**, and that of its Fellows, with the **media** (and through them with the public) as well as with decision makers.
- Many **evidence gaps** remain and there is a role for the AMS to horizon scan for new challenges and to identify and engage the range of different disciplines that are needed to answer questions such as the wider health impacts of COVID-19 including and how existing socio-economic and racial inequalities affect the long-term impact of COVID-19 on different communities
- Facilitating **international scientific collaboration** and promoting **reciprocal knowledge exchange between governments** should be a priority for the UK.
- Supporting the **recovery of the medical research ecosystem** will be a key role for the Academy. Fellows stressed the importance of addressing the needs of the early career cohort and the importance of considering the value of non-covid research to the health and wealth of the UK.
- There are lessons to be learnt from **partnerships** between academia, industry, the NHS and Government that worked well (resulting in many of the successes that Fellows highlighted) and those that worked less well.
- The importance of harnessing the **collective expertise of the Fellowship** was stressed as was the value of **working with the other national academies**.
- It is important to **celebrate successes** such as the speed with which clinical trials were established and research funding made available; innovations in terms of remote care; and more generally the way that the scientific community has used its expertise to tackle the challenges presented by COVID-19.

Overview

On 13 July, over 50 of the Academy's Fellows (including Council members) attended a virtual meeting to discuss lessons learned from the COVID-19 outbreak response to date and consider the Academy's role now and for the rest of the pandemic. All Fellows were invited (see the Annex for a list of attendees). The President began by outlining the policy, communication and careers support activities that the Academy had undertaken to date.¹ He stressed that reflections on the pandemic to date should be constructive, focusing on what we have learnt that can improve our response in the short and long term – including to future emerging infectious diseases. This report summarises the key points made at the meeting and does not necessarily reflect the views of the Academy or all of the attendees. As announced at the meeting, the Academy is establishing a small group of Fellows to advise Council on its activities linked to the pandemic.

¹ <https://acmedsci.ac.uk/policy/uk-policy/coronavirus>

Key points from the discussion

Addressing key evidence gaps

The Academy has helped to address some of the key evidence needs in mental health research² and immunology³ and on 13 July was about to publish a report on preparations for a challenging winter.⁴ Many gaps remain and there is a role for the AMS to horizon scan for new challenges and to identify and engage the range of different disciplines that are needed to contribute. Evidence gaps include:

- The wider health impacts of Covid-19 including: the suspension of routine healthcare, research and training; post-Covid sequelae; an economic downturn; and mental health implications.
- Understanding how existing socio-economic and racial inequalities affect the long-term impact of COVID-19 on different communities: intersectionality should be a focus for the Academy.
- Aspects of the pathogenicity, immunology and epidemiology of the disease including: routes of transmission; role of T-cells in immunity; animal reservoirs for Covid-19 and other diseases.
- The effectiveness of different interventions (e.g. face coverings).

More generally, there were discussions about whether all scenarios and interventions are being modelled and whether enough information has been made available on how these models contributed to decision making.

Improving the health, social care and public health infrastructure and co-ordination

The President commended the way that health care professionals had treated patients during the pandemic and highlighted the number of clinical academics that had been on the frontline. Reflecting on the pandemic as of 13 July 2020, Fellows identified the following 'lessons learnt' that the Academy should reinforce with decision makers:

- The two strongest messages from the meeting was that UK public health needs a stronger role, supported by better investment and that the UK must quickly move from a centralised to a local model of response to enable very localised interventions in response to future to spikes and waves. This is particularly important for testing and data collection. The importance of public health should be reflected in the Academy's own policy work.
- The complexity of the health, public health and social care (which is a mixed private and public model) systems were regarded as having hindered the pandemic response.

² Holmes EA, et al. (2020). Multidisciplinary research priorities for the COVID-19 pandemic: a call for action for mental health science. *The Lancet Psychiatry* **7(6)**, 547-560.

³ Academy of Medical Sciences (2020). *COVID-19 immunology research*. <https://acmedsci.ac.uk/file-download/24858714>

⁴ Academy of Medical Sciences (2020). *Preparing for a challenging winter 2020/21*. <https://acmedsci.ac.uk/file-download/51353957>

- 'Shutting down' the health system created a backlog that will have long-term impacts that have not yet been quantified. This backlog should be addressed as a priority and the 'shutdown' should not be repeated.
- Data infrastructure has not been strong enough to support sharing or collection in all settings (e.g. social care). Better, more granular data should be collected, shared and linked to enable the impact of the disease to be understood. GP record linkage was highlighted as a strength.
- The differences between the responses by the four nations undermined public confidence at times but in some cases reflected different experiences of the pandemic.
- The health system should build on the positive experiences of consultations and interventions delivered remotely and assess how these can be incorporated into care post-pandemic.

Supporting the medical research ecosystem

- It was widely agreed that supporting early career researchers should be a priority for the Academy and others in order to avoid a 'lost cohort'. Any support should reflect the fact that the careers of individuals will depend on: their funder (e.g. whether no-cost extensions were given); the extent to which their research could continue during lockdown; whether they had caring responsibilities (women are normally disproportionately affected).
- The speed with which the research community focused on COVID-19 is commendable, but it is important to ensure that non-COVID research is not neglected as it has both health & wealth benefits.
- Public health-related research needs to be strengthened and better links made with 'discovery' research.
- Interdisciplinary research (both within biomedical research and drawing in wider disciplines) will be key to addressing many of the remaining research gaps and should be facilitated.
- It will be important to learn from examples where the relationship between Academia and the NHS worked well together during the pandemic and consider how to build on this.
- The impact of COVID-19 on the medical research charities and universities was highlighted as a priority for the Academy to monitor and bring to the attention of Government where necessary.
- With respect to training, there is an opportunity to reflect on whether the curriculum enables healthcare professionals to deal with unknown challenges like COVID-19. In addition, any benefits from remote learning should be harnessed.

International engagement

- AMS should harness its existing international relationships and activities to support countries where the impact of COVID-19 is more severe.
- Virtual events – such as those held by AMS – have facilitated rapid international networking of the research community.
- International comparisons and learning from the experiences of other countries and regions has not appeared to be a high enough priority for Government.
- Facilitating international scientific collaboration should continue to be a priority for the UK Government, including post-Brexit.

Partnerships and collaboration

- In some cases Fellows had witnessed a rapid resolution of challenges and barriers removed and replaced by efficient partnerships. Trials were started very quickly, facilitated by regulators. Fellows questioned whether aspects of this can be continued.
- In some cases the Government-industry partnerships were seen to have worked well (e.g. the ventilator challenge); in other cases less so (e.g. PPE and development of tests). Likewise some academia-NHS partnerships facilitated the scale-up of testing, while others did not.

Communicating evidence

- Fellows recognise excellent work delivered by AMS and individual Fellows, particularly in the earlier stages of the pandemic. There is a desire for the Academy's engagement with the media to be more proactive. AMS must share its expertise and that of its Fellows with the public (via the media), not just decision-makers.
- Complex evidence is difficult to communicate (e.g. use of face coverings) and does not lend itself to 'one-line' policy decisions. Public health messaging by Government and its agencies could be clearer. Fellows were supportive of the role played by the Government's Chief Scientist and the Chief Medical Officer but were concerned that scientific evidence and those that present it will be unfairly 'scapegoated' in any inquiry. This could impact on the public perception of science. The four national academies should work together to avoid this.
- AMS could consider a wider role in communicating evidence - holding more webinars; providing evidence summaries; championing good trials and interventions; providing a database of effective testing regimes.
- The increase in the promotion of pre-prints in the media was discussed. Rapid publication of evidence without peer review could save lives but poor quality research can drown out significant trends and patterns.

Annex: Attendee List

Professor Timothy Aitman FMedSci
Professor Jonathan Ashmore FRS FMedSci
Dr Peter Bannister
Professor Wendy Barclay FMedSci
Professor Philip Bath FMedSci
Professor Sir David Baulcombe FRS FMedSci
Professor Sheila Bird OBE FRSE FMedSci
Professor Tim Bishop FMedSci
Sir Walter Bodmer FRS HonFRSE FMedSci
Sir Leszek Borysiewicz FRS FMedSci FLSW
Sir Robert Boyd FMedSci
Professor Peter Braude OBE FMedSci
Professor Morris Brown FMedSci
Professor Lucy Chappell FMedSci
Professor K K Cheng FMedSci
Professor Hilary Critchley FRSE FMedSci
Professor Peter Cullen FMedSci
Professor Sarah Darby FRS FMedSci
Professor Daniel Davis FMedSci
Professor David Delpy CBE FRS FREng FMedSci
Professor David Denning FMedSci
Dr Jennifer Dixon CBE FMedSci
Professor Dame Anna Dominiczak DBE FRSE FMedSci
Professor Christl Donnelly CBE FRS FMedSci
Professor Christopher Dye FRS FMedSci
Professor Tamsin Ford CBE FMedSci
Professor Alasdair Geddes CBE FMedSci
Professor David Heymann CBE FMedSci
Professor Sanjeev Krishna FMedSci
Professor Diana Kuh FMedSci
Professor Sir Robert Lechler PMedSci
Professor Timothy Leighton FRS FREng FMedSci
Professor Derek Mann FMedSci
Professor Jonathan Mant FMedSci
Professor Martin McKee CBE FMedSci
Professor Richard Olver FMedSci
Professor Sir Stephen O'Rahilly FRS FMedSci
Professor Chris Ponting FMedSci
Professor Andrew Prentice FMedSci
Professor Martin Rossor FMedSci
Professor Christopher Rudd FMedSci
Professor Philippa Saunders FRSE FMedSci
Professor Elizabeth Simpson OBE FRS FMedSci
Professor Robert Souhami CBE FMedSci
Professor Paul Stewart FMedSci
Dr Charlotte Summers
Professor Rhian Touyz FMedSci
Professor Richard Trembath FMedSci
Professor Veronica Van Heyningen CBE FRS FRSE FMedSci
Professor Sir Simon Wessely FMedSci

Professor Paula Williamson FMedSci
Professor M.E.J. Woolhouse OBE FRSE FMedSci

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