

1 March 2018

Rt Hon Norman Lamb MP
Chair, Science and Technology Committee
House of Commons
London
SW1A 0AA

Dear Mr Lamb,

Brexit Summit Inquiry: Science and Security

Thank you for the opportunity to represent the Microbiology Society at the Science and Technology Committee's Brexit Science and Innovation Summit on 22 February 2018. I am writing to provide additional information relating to my question about Brexit and biosecurity, an issue also noted in the Society's written evidence¹ submitted to your inquiry.

At the Summit, Vicky Ford highlighted "science, security and students" as essential issues to seek immediate, clear agreement on in the Brexit negotiations. I stated that science needs to be considered as part of the UK's national security strategy. The global challenges of antimicrobial resistance (AMR), emerging infectious diseases and animal diseases feature in the Government's 'National Risk Register of Civil Emergencies – 2017 Edition'² as risks to UK health and socio-economic security. International collaboration on science and innovation with Europe and other international partners is vital for preparedness and tackling these challenges. It is also important and relevant to international diplomacy and supporting international development, a topic raised by Jen Rae from NESTA at the Summit.

The importance of UK science and international collaboration for biosecurity was highlighted in the Science and Technology Select Committee's 2015 'Science in emergencies: UK lessons from Ebola inquiry' report,³ in which evidence submitted by the Society⁴ was cited. This illustrated how the UK, through excellent public health policy and practice, world class science in infectious diseases, Official Development Assistance, and global partnerships where the UK participates on merit, can coordinate in the national and international interest to respond to infectious disease outbreaks. As

¹ <https://microbiologysociety.org/policy/science-and-the-eu.html>

² <https://www.gov.uk/government/publications/national-risk-register-of-civil-emergencies-2017-edition>

³ <https://www.parliament.uk/business/committees/committees-a-z/commons-select/science-and-technology-committee/inquiries/parliament-2015/science-in-emergencies/>

⁴ https://microbiologysociety.org/resource_library/knowledge-search/science-in-emergencies-uk-lessons-from-ebola.html

subsequent Zika virus and influenza outbreaks have highlighted, infectious diseases pose ever present threats to UK citizens; they do not respect international borders and addressing them requires sustained international partnerships, including with the EU. UK scientists, including microbiologists, continue to play an important role as part of the EU-funded emergency response lab (EMLab),⁵ which has deployed international teams of scientists to epidemics in West Africa, the Democratic Republic of Congo, and Uganda. UK scientists are co-opted into the EMLab team and trained in Hamburg prior to deployment to epidemics. The EMLab is one of the most versatile units in the world and was the first diagnostic unit to be deployed in the West African Ebola epidemic. The ability of the UK to continue to contribute to such rapid EU response teams requires sustained collaboration and free movement of skilled scientists.

Addressing public health infection emergencies and AMR requires free and rapid movement of people during a crisis, followed by sustained and easy movement of early career scientists after the crisis to build and maintain capacity. It also requires the sharing, often in real time, of pathogen genetic, epidemiological and surveillance data, plus the rapid approval of clinical trials for therapies and vaccines. The emphasis is on scientific excellence and speed, where continued partnership with EU organisations, such as the European Centre for Disease Prevention and Control (ECDC) and European Medicines Agency (EMA), will be important. The UK has provided world-class leadership in these areas, supported by sustained funding to allow the leadership to be credible. These complex relationships must be maintained and allowed to flourish post-Brexit as a matter of national biosecurity.

As highlighted in our written evidence, spread of infection-causing micro-organisms and AMR is another global challenge for public health, agri-food and sustainable development.⁶ Members of the Microbiology Society are involved in UK-funded international initiatives, but also participate closely in EU Horizon 2020 projects such as Compare,⁷ an enabling, analytical framework encompassing globally linked data and an information-sharing platform for the rapid identification, containment and mitigation of emerging infectious diseases and foodborne disease outbreaks. Such fundamental partnerships result from decades of close EU collaboration. For example, during the German *Escherichia coli* outbreak with a novel strain in 2011, which caused illness in approximately 4,000 people and killed 50, scientists in the UK worked with colleagues in Germany and elsewhere to undertake rapid genomic analyses to better understand why this strain was particularly virulent.

Climate change increases the possibility of insect vectors that transmit disease shifting their ranges northwards in Europe and potentially to the UK, which could pose risks to human and livestock health.⁸ Members of the Microbiology Society, including those at The Pirbright Institute and the Animal Health and Veterinary Laboratories Agency (AHVLA) work actively in animal health and biosecurity. For example, the National Risk Register² highlights livestock diseases such as Bluetongue disease as important.

⁵ <http://www.emlab.eu/>

⁶ <https://microbiologysociety.org/publication/briefing/antimicrobial-resistance.html>

⁷ <http://www.compare-europe.eu/about>

⁸ <https://microbiologysociety.org/publication/policy-documents/microbiology-and-climate-change.html>

Biosecurity concerns also apply to crop and plant health. *Xylella fastidiosa*, a bacterium spread by insects which feed on plant sap, causes disease in a wide range of woody commercial plants such as grapevines and several species of broadleaf trees widely grown in the UK. Although *Xylella fastidiosa* is not yet present in the UK, it was present in Italy in 2013, and Corsica and mainland France in 2015. *Xylella fastidiosa* introduction into the UK would have huge implications for horticultural trade and the wider environment.⁹ This illustrates the importance of continued collaboration with European partners on surveillance, research and controls to limit risks from such diseases to agriculture and the environment.

In summary, international collaboration in microbiology plays a vital role in ensuring effective preparedness, protection and responses to infectious disease threats. The Microbiology Society urges your Committee to recommend that the Government, as part of the Brexit negotiations, seeks future agreements for international scientific partnership to ensure national and international biosecurity while maintaining the UK's leadership on global issues relating to health and sustainable development.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'P. Kellam', with a long horizontal stroke extending to the right.

Professor Paul Kellam

Chair-Elect, Microbiology Society Policy Committee

cc: Vicky Ford MP

⁹ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/662219/xylella-fastidiosa-impl-trade.pdf
