

Nicola Blackwood MP  
Chair, Science and Technology Committee  
House of Commons  
London  
SW1A 0AA

*From the Biological Secretary and Vice-President Sir John Skehel FRS*

20 May 2016

Dear Nicola,

### **Science in emergencies: chemical, biological, radiological or nuclear incidents inquiry**

The Royal Society welcomes the opportunity to respond to the House of Commons Science and Technology Committee's consultation on 'Science in emergencies: chemical, biological, radiological or nuclear incidents'.

The Royal Society is the national academy of science for the UK. It is a self-governing Fellowship of many of the world's most distinguished scientists working across a broad range of disciplines in academia, industry, charities and the public sector. The Society draws on the expertise of the Fellowship to provide independent and authoritative scientific advice to UK, European and international decision makers.

#### **Science advice in emergencies**

When emergencies arise, input from experts is necessary to help decision makers respond in situations where evidence will inevitably be incomplete, insufficient and uncertain. Scientific advice can help prepare for and respond to emergency situations, but in emergencies there are often limits of the scientific evidence in answering urgent questions and these limits should be acknowledged.<sup>i</sup>

High-quality expert advice should be based on an assessment of the overall strength of the available evidence from a wide range of experts. If there is no strong consensus, or if knowledge is still tentative, these uncertainties should be reflected in the advice. Other factors, such as moral values, play a legitimate role in shaping policy. In all cases, the Government should be transparent about why decisions have been made.<sup>ii, iii</sup>

The UK's capacity to understand and respond to emergencies also depends on Government commissioning and using high-quality research. This should be supported by ensuring that all Chief Scientific Advisers have sufficient support and status within their departments as well as access to



President Sir Venki Ramakrishnan  
Executive Director Dr Julie Maxton

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Ministers. As further powers are devolved expert advice may also need to be better embedded in local or regional decision making.<sup>iv</sup> Strategic research funded by government departments provides vital evidence to inform Government decision making including in emergencies.

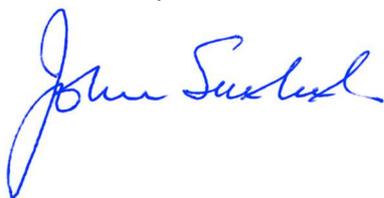
### **Chemical, biological, radiological and nuclear incidents**

The Society's previous work on chemical, biological, radiological and nuclear (CBRN) security<sup>v, vi</sup> highlighted that science, engineering and technology are central to improving prevention, detection and response capabilities. Consequently taking account of technological developments will increase the capability to deal with CBRN incidents.

This was highlighted in recent work led by the Royal Society, in partnership with the US National Academy of Sciences and Polish Academy of Sciences, for the InterAcademy Partnership (IAP) Biosecurity Working Group on the trends in science and technology with implications for the Biological and Toxin Weapons Convention.<sup>vii</sup> The rapid developments in science and technology had both facilitated prevention, detection and response capabilities as well as lowered the barrier to the development of biological and toxin weapons. The report recommends robust science advisory mechanisms to support decision makers in assessing the impact of developments in the science and technology for the convention, which is also important within national level structures.

For further information, please contact Becky Purvis, Head of Public Affairs on [becky.purvis@royalsociety.org](mailto:becky.purvis@royalsociety.org)

Yours sincerely,



Sir John Skehel  
Biological Secretary

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<sup>i</sup> Royal Society Response to the House of Commons Science and Technology Select Committee inquiry into scientific advice and evidence in emergencies (2010) <https://royalsociety.org/~media/policy/Publications/2010/science-advice-emergencies-130910.pdf>

<sup>ii</sup> Royal Society Response to the House of Commons Science and Technology Select Committee inquiry into scientific advice and evidence in emergencies (2010) <https://royalsociety.org/~media/policy/Publications/2010/science-advice-emergencies-130910.pdf>

<sup>iii</sup> Building a Stronger Future (2015) <https://royalsociety.org/~media/policy/Publications/2015/building-a-stronger-future-research-innovation-growth.pdf>

<sup>iv</sup> Building a Stronger Future (2015) <https://royalsociety.org/~media/policy/Publications/2015/building-a-stronger-future-research-innovation-growth.pdf>

<sup>v</sup> Making the UK safer: detecting and decontaminating chemical and biological agents (2004) <https://royalsociety.org/topics-policy/publications/2004/making-uk-safer/>

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<sup>vi</sup> Detecting nuclear and radiological materials (2008) <https://royalsociety.org/topics-policy/publications/2008/nuclear-radiological-materials/>

<sup>vii</sup> Assessing the implications of advances in science and technology for the Biological and Toxin Weapons Convention (2015) <https://royalsociety.org/topics-policy/projects/biological-toxin-weapons-convention/>