

**Precautionary Meeting of the Scientific Advisory Group for Emergencies
Zika Virus**

Summary Minute of 4th Meeting

8 June 2016

1 Victoria Street Conference Centre, London, SW1H 0ET

List of attendees

Chairs

Sir Mark Walport	Government Chief Scientific Adviser
Chris Whitty	Chief Scientific Adviser, DH

Attending

Emma Aarons	Public Health England
Brian Crook	Health and Safety Laboratory
Tom Evans	University of Glasgow and Chair of ACDP
Josie Golding	Wellcome Trust
Jenny Harries	Public Health England
David Lalloo	Liverpool School of Tropical Medicine and Chair of ACMP
Jolyon Medlock	Public Health England
Dilys Morgan	Public Health England
Helen Roberts	Animal and Plant Health Agency
Laura Rodrigues	London School of Hygiene and Tropical Medicine
Tom Solomon	Liverpool School of Tropical Medicine

Dialling in

Tony Fooks	Animal and Plant Health Agency
Alain Kohl	University of Glasgow
Jill Meara	Public Health England
David Spiegelhalter	University of Cambridge
Charlotte Watts	Chief Scientific Adviser, DFID

Secretariat

Colin Armstrong	Government Office for Science
Katie Badman	Government Office for Science
Dinesh Seneviratne	Government Office for Science
Jack Wardle	Government Office for Science

Observers

Patrick Bragoli	Foreign and Commonwealth Office
Alexandra Lee	Department of Health
Jasdeep Sandhu	Department for International Development
Victoria Stephens	Department of Health
Elizabeth Surkovic	Government Office for Science
Stuart Wainwright	Cabinet Office

ACTIONS

1. **Secretariat** to refine and circulate risk communication statements. **Pre-SAGE members** to complete table with a central point and percentage ranges for each statement, with references of their sources and confidence they have in the estimate.
2. **Attendees who dialled in** to contact **Emma Aarons** if they would like to view, in confidence, the data presented at the meeting on Zika virus in semen.
3. **PHE** to explore whether they should offer diagnostic and, if appropriate, follow-up semen testing to British athletes returning from the Olympics and Paralympics.
4. **CRCE** to clarify in their paper on disinsection what is meant by 'blocks away' in terms of the spraying of aircraft.
5. **Brian Crook** to follow up with HSL/HSE colleagues on relevant aspects of the disinsection paper and contact PHE with any concerns.
6. **Secretariat** to update science advice document with suggested changes, following up where appropriate with individuals who suggested new text.

AGENDA ITEM 1: WELCOME

The chairs welcomed participants to the fourth pre-SAGE meeting, which had been convened due to the heightened public interest prior to the Olympics. Attendees were informed that they should continue to speak to the media in their capacity as experts but content from pre-SAGE meetings was to be treated as confidential.

AGENDA ITEM 2: UPDATE ON LATEST SITUATION

As of 8 June 2016, a total of 51 countries and territories had reported active Zika transmission. In the UK, a total of 27 cases had been diagnosed in returning travellers since 2015. In addition, 25 cases of possible sexual transmission of the Zika virus from males to their sexual partners had been reported. Overall, there had been a general slowing down of countries reporting cases.

AGENDA ITEM 3: RISK COMMUNICATION

The communication of the risk of Zika could be improved by providing numerical assessments of the risk, however rough and provisional, with an idea of the strength of the evidence. To demonstrate this approach, a draft paper was tabled with fictional numerical assessments to stimulate the discussion. In light of this, the group agreed to undertake a light-touch Delphi approach using expert judgement to develop figures for a range of risks associated with Zika. Once complete, a decision would be made on whether the outputs would aid or confuse public communications.

ACTION 1: Secretariat to refine and circulate risk communication statements. Pre-SAGE members to complete table with a central point and percentage ranges for each statement, with references of their sources and confidence they have in the estimate.

AGENDA ITEM 4: IMMUNITY

The Asian strain of the Zika virus had spread to Cape Verde causing concerns about possible spread to the rest of Africa and what impact it would have. The possibility that previous infection with the African strain of the virus would provide protection against the Asian strain was discussed.

A study in the New England Journal of Medicine had highlighted that there was strong conservation among all Zika virus strains (ie Asian and African strains), with less than 12% divergence at the nucleotide level. In addition, the University of Wisconsin-Madison Primate Research Centre had published data from a single study where three Indian rhesus macaques had been infected with the African strain and then challenged with the Asian strain. The macaques showed no viraemia following challenge suggesting cross-protection.

While the numbers involved in the animal study were small, the results do provide some level of reassurance that individuals previously infected with the African strain would be protected against the Asian strain. There are, however, many uncertainties and further research is needed to understand the likely impact in Africa. For example, serological studies are needed to determine the levels of pre-existing immunity across Africa as well as data on the duration of protection following infection.

AGENDA ITEM 5: SEXUAL TRANSMISSION OF ZIKA VIRUS

As of 3 June 2016, 25 probable cases of sexual transmission of Zika virus had been reported globally. All officially reported or published cases of probable sexual transmission involved men who experienced symptoms suggestive of Zika virus infection.

At the time of the meeting, there was no published data demonstrating detection of Zika virus in semen from men who travelled but did not experience symptoms suggestive of Zika virus transmission – it was noted that this was an absence of evidence, rather than proof that there was no risk.

However, unpublished data from follow-up of a small number of symptomatic male travellers diagnosed with confirmed Zika infection at PHE's Rare and Imported Pathogens Laboratory had found significant levels of virus in the semen of 7 out of 10 men. In some instances the earliest viral loads were 100,000 times higher in semen than blood. Overall, there was a consistent tendency for viral loads to decrease over time. In addition, viral loads did not appear to increase again or persist for a long time at a low level.

It was noted that the advice from the World Health Organization (WHO), US Centers for Disease Control and Prevention (CDC), and the European Centre for Disease Prevention and Control (ECDC) for couples with a male partner who had travelled to an area with Zika but did not have symptoms had recently been updated and was now different to the advice from PHE. WHO, CDC and ECDC were recommending that couples consider using a condom for 8 weeks after the man returns in contrast to the 28 days recommended by PHE. It was noted that this change in advice was not based on a change in the evidence base.

PHE were considering updating their advice to be consistent with that from WHO, CDC and ECDC. Pre-SAGE supported this approach and approved the suggested revised wording of the advice.

It was agreed that further research, data and information on sexual transmission was needed. All attendees at the meeting were recommended to collectively support organisations undertaking research in this area. PHE noted that they would be content to offer routine diagnostic and semen testing to male athletes following the Olympics.

ACTION 2: Attendees who dialled in to contact Emma Aarons if they would like to view, in confidence, the data presented at the meeting on Zika virus in semen.

ACTION 3: PHE to explore whether they should offer diagnostic and, if appropriate, follow-up semen testing to British athletes returning from the Olympics and Paralympics.

AGENDA ITEM 6: DISINSECTION

The international consensus was that the benefits of disinsection in reducing Zika infection in passengers were very low, although not zero. In addition, the public health risks from disinsection were also very low – pyrethroid sprays have a long history of use and are widely used across the world. A number of studies had explored the effects of disinsection on

passengers and crew. These studies had found that chemical intakes were 5 to 10 fold below the acceptable daily intake (the exposure differences were due to the method of disinsection and insecticide used).

Pre-SAGE agreed that from a scientific point of view the benefits and risks from disinsection remain minimal.

ACTION 4: CRCE to clarify in their paper on disinsection what is meant by 'blocks away' in terms of the spraying of aircraft.

ACTION 5: Brian Crook to follow up with HSL/HSE colleagues on relevant aspects of the disinsection paper and contact PHE with any concerns.

AGENDA ITEM 7: REVIEW OF THE SCIENCE ADVICE DOCUMENT

The group agreed that small changes were needed to the advice on:

- How vector borne diseases spread.
- Risk of microcephaly.
- Role of different vectors in transmission.
- Risk of transmission via breast milk and infection in neonates.
- Reasons why Zika had spread so rapidly in South America.
- Risk of spread in other countries around the world.

It was also suggested that a risk scale be developed to accompany the advice.

ACTION 6: Secretariat to update science advice document with suggested changes, following up where appropriate with individuals who suggested new text.

AGENDA ITEM 8: AOB

The next meeting was to be held in advance of the Olympics.