

**Scientific Advisory Group for Emergencies – Ebola
Summary Minute of 2nd Meeting
29 October 2014
Boardroom, Department of Health, Richmond House, London**

List of attendees

Chairs

Sally Davies	CMO
Mark Walport	GCSA

Attending

Paul Cosford	PHE
Miles Elsdon	DfT
Neil Ferguson	Imperial College London
Robin Grimes	CSA, FCO
Peter Grove	DH
Simon Hay	University of Oxford (via telephone)
David Heymann	PHE
Mike Jacobs	Royal Free
Anne Johnson	UCL
David Laloo	Liverpool School of Tropical Medicine (via telephone)
Melissa Leach	Institute of Development Studies (via telephone)
Neil McGuire	MHRA
Angela McLean	University of Oxford (via telephone)
Julian Miller	Cabinet Office
Dilys Morgan	PHE
Paul Moss	University of Birmingham
Andrew Pollard	University of Oxford (via telephone)
Cathy Roth	WHO
Bernard Silverman	CSA, Home Office
John Simpson	PHE
Andrew Terrell	MOD
John Watson	Department of Health
Jimmy Whitworth	Wellcome Trust

Officials

Tim Baxter	Department of Health
Guy Howard	DFID (via telephone)
Chris Lewis	DFID
Catherine Makison-Booth	Health and Safety Laboratory
Alex McLaughlin	Department of Health
Alan Pratt	Home Office
Jasdeep Sandhu	DFID
Helen Shirley-Quirk	Department of Health
Ailsa Wight	Department of Health
Geoff Wooton	Department of Health (via telephone)

Secretariat

Colin Armstrong	GO Science
Phil Green	Wellcome Trust
Ruth Parry	Department of Health
Marsha Quallo-Wright	GO Science
Elizabeth Surkovic	GO Science
Chloe Watson	Wellcome Trust

ACTIONS

1. **CMO** to contact CDC and PHE about access to sequence data.
2. **Modelling Sub-Group and DFID** to develop an agreed set of scenarios.
3. **Modelling Sub-Group** to provide updates based on accurate bed numbers.
 - To assess the relative effect on beds now vs beds later.
4. **Modelling Sub-Group** to provide updates about burial practices and healthcare worker transmission.
 - To assess whether the outbreak be controlled by safe burial practices.
5. **Modelling Sub-Group** to agree graphical form of the data for presentation to COBR.
6. **PHE** to update viral survival paper to reflect the uncertainties in the data.
7. **CMO** to speak to WHO about the development of a sequence data consortium with input from the **Wellcome Trust**.
8. **DFT/ Modelling Sub-Group** to provide a paper on the movement of people.

AGENDA ITEM 1: WELCOME

CMO welcomed participants to the second meeting of the Scientific Advisory Group for Emergencies. Attendees were informed that they should feel able to speak to the media in their capacity as experts but content from SAGE meetings should be treated as confidential.

AGENDA ITEM 2: UPDATE SINCE LAST MEETING

Department of Health

The World Health Organization had agreed to the release of the line-list data for SAGE. The CMO would be contacting a number of other organisations about access to sequence data.

The CMO gave evidence to the Health Select Committee in the week commencing 20 October. Questions centred on NHS preparedness and provision of PPE. NHS England has been asked to provide assurance that training has reached all relevant parts of the NHS.

Public Health England

Public Health England (PHE) is continuing to ensure that the UK is prepared for the first UK case. Screening had been introduced at Gatwick Airport, Heathrow Airport and Eurostar Terminals and was due to be implemented at Birmingham Airport on 31 October and Manchester Airport in the week commencing 3 November.

PHE was also ensuring preparedness across the NHS and exercising local teams to ensure contact tracing is functional as soon as it is needed. Other work being carried out by PHE included continued development of laboratory facilities in Sierra Leone, implementation of a system to monitor those returning from affected countries and coordination of the return of military personnel.

AGENDA ITEM 3: REQUESTS FROM COBR & CCS

Modelling

Three scenarios for the evolution of the outbreak to February 2015 were outlined. The 'reasonable worst case scenario' was deemed to have a 20% subjective relative chance of occurring, while the subjective relative chance of the 'intermediate' and 'best case' scenarios were both deemed to be 40%.

Clarification was requested regarding projected bed capacity based on UK and non-UK data as this would have a significant impact on the outbreak.

The risk of transmission at burials was highlighted as a continued area of concern. The apparent reduction in cases in Liberia may be a result of the newly introduced mass cremation policy. However, it was noted that communities may be hiding bodies because the new burial practices had the potential to be unpopular, resulting in an under-reporting of cases. The modelling sub-group agreed to provide updates about burial practices and whether the outbreak could be controlled using only safe burial.

It was noted that the percentage of hospitalised cases in Sierra Leone is between 40% and 50% and the mean time between onset of symptoms and hospitalisation was 4 days. The incidence of Ebola in healthcare workers decreased between August and October from 7% to 3% of total cases. It was uncertain whether this was due to improved infection control.

The modelling sub-group also agreed to standardise the graphical form of the data presented to Ministers and to work with DFID to develop an agreed set of scenarios on the likely development of the outbreak. They also agreed to define the minimum data set needed for better prediction.

In terms of uncertainty in the modelling, four areas were highlighted:

- Process uncertainty – including limited data on how transmission risk varies with stage of infection and type of contact.
- Limitations of surveillance data – while country Viral Haemorrhagic Fever (VHF) databases were mostly definitive, they were 2-4 weeks behind the epidemic.
- Intervention uncertainty - including how the fluctuation in cases correlates with local interventions.
- Uncertainty about the future

Scenario analysis was favoured above a Bayesian-type approach as a way to present uncertainty in the models.

Isolation of community contacts – use of quarantine

A system of categorisation of Ebola contacts had been developed based on their risk of infection. This was compatible with the guidance from the Advisory Committee on Dangerous Pathogens and would result in no major changes being made to the current PHE advice with respect to isolation of community contacts. Individuals in the early stages of infection and without symptoms were not infectious to non-intimate contacts. Quarantine would not be recommended at this stage.

Ebola virus survival times

The Ebola virus is relatively fragile and would not survive treatment with common disinfectants, soap or detergent. Disposal of contaminated liquids was not considered to be a significant hazard. Treatment of liquid waste with hypochlorite prior to disposal could provide an additional safeguard but may pose other issues.

PHE agreed to update the virus survival paper to reflect uncertainties in viral shedding at different stages of illness.

DFID highlighted that they were considering undertaking some additional research on virus survival in countries in West Africa.

AGENDA ITEM 4: VACCINES

Three vaccines are currently under development. The GSK vaccine is currently in Phase I trials and is likely to require a booster dose. The NewLink vaccine is an attenuated virus, which is shortly due to begin Phase I trials. This vaccine would not require a boost. The third vaccine by Johnson and Johnson is due to enter Phase I trials in January 2015. It is likely to require a boost vaccination for which the company has two different carriers.

The UK is leading on international negotiations around indemnity and scale up, and initiating the multi-state WHO meeting on use issues. The FDA, CDC and NIH have proposed two further studies: a phase 2/3 randomised control trial and a step-wedge trial.

The CMO will convene a workshop to discuss trial methodology and issues with a prime-boost strategy in the week commencing 3 November.

AGENDA ITEM 5: UPDATE ON REMAINING SUB-GROUPS/ACTIONS FROM LAST MEETING

Health Advisory Committee

The Health Advisory Committee (HAC) has been looking at the relative levels of care that can be provided to Ebola patients in the UK compared to MOD care in Sierra Leone. There is an indication that countries such as the US and Germany would be likely to offer mechanical ventilation as part of Ebola treatment. In the UK there is a divergence of opinion regarding the use of treatments, such as mechanical ventilation, that go beyond standard rehydration and treatment with antibiotics. The HAC will continue to explore this issue.

Social Science sub-group

The group has two current priorities: reducing transmission from burials and reducing the time between symptom onset and transfer to an Ebola Care Unit. High-profile burials can act as 'super-spreaders', leading to increases in transmission such as those seen recently in Kenema. High profile burials are likely to be associated with secret societies. Changes to burial practices, including the possibility of suspending rituals such as touching and washing of bodies, should involve engagement with the societies through district leaders. Community engagement through religious and chieftaincy structures may also be important in order to reduce transmission from burials.

Genetic sequencing

The need for greater understanding of virus diversity, improved international effort, and links with epidemiological data are needed. The CMO agreed to speak to WHO about the development of a sequence data consortium with input from the Wellcome Trust. CMO also agreed speak to other organisations regarding access to sequence data.

Due to limited time available, information items on diagnostics and PPE were not discussed.

AGENDA ITEM 6: AOB

It was agreed that the Department for Transport (DfT) and the modelling sub-group would produce a paper on geographic movements of people and how this may impact the epidemic. The possible use of convalescent plasma and the need to maintain control after the current outbreaks were raised as potential additional areas for consideration.