

6th SCIENTIFIC ADVISORY GROUP MEETING

Friday 13th October 2006

10.00am – 1pm, Wellington House, Room LG18

Attendees

Chris Bartlett	UCL/NEPNEI
Philip Bryan	DH
Lindsey Davies	DH
Peter Dukes	MRC
John Edmunds	HPA
David Harper	DH
Fiona Harrison	DTI/OST
Neil Ferguson	Imperial College
Peter Grove	DH
Stephen Inglis	NIBSC
Steve Leach	HPA
Jane Leese	DH
Nigel Lightfoot	HPA
Janet Meacham	DH
Angus Nicoll	ECDC
Mike Simmons	Welsh Assembly
John Stephenson	DH
Joanne Wallace	Defra
Daniel Wood	DH
Maria Zambon	HPA

Guests:

Jo Newstead	DH
Liz McIntosh	CCS
Elaine Gadd	DH
Carole Fry	DH

Apologies:

Roy Anderson	MOD
Gordon Conway	DfID
Howard Dalton	Defra
Lorraine Doherty	DHSSPSNI
Brian Duerden	DH
Diana Grice	Surrey and Sussex HPA
George Griffin	St Georges Hospital/ACDP
Nigel Lightfoot	HPA
Barry McCormick	DH
Chris McFee	TDST, OSI
Robert Read	University of Sheffield Medical School
David Salisbury	DH
Elizabeth Stewart	Scottish Executive
Mike Tas	Defra
Kent Woods	MHRA

Introductions

The Chair introduced additional attendees at the meeting to the Group:

Joanne Wallace was attending in place of Mike Tas. Fiona Harrison was attending in place of Chris McFee. Jo Newstead and Carole Fry were attending to represent the Department of Health on agenda related items, as was Liz McIntosh from the Cabinet Office.

1. Minutes of the meeting on 23rd June 2006

The minutes were agreed with the following clarifications/amendments:

- Clarification that the percentage of MRC funding devoted to influenza research was (presumably) 10% of *infectious disease* funding.
- Point 2.1 needed to make clear that it was a 'washed up' swan.
- Page 5, 2nd bullet (on schools closures) needed to be in line with the modelling summary.

2. Matters arising

2.1 Revised 'Endorsed statements'

The purpose of this paper was to agree clear statements of the current advice of the Group on a range of issues discussed at previous meetings. These included recommendations on public health measures (including travel restrictions), antiviral strategies and immunisation strategies. The paper had been revised following discussion at the last SAG meeting. The Group endorsed the statements as reflecting the agreed positions. The paper will now be posted on the DH website, and revised as necessary.

2.2 Amantadine – use in Wales

This paper was prepared by Welsh Assembly officials and outlined proposals for a supplementary stockpile of Amantadine for possible prophylactic use in Wales. The paper had been considered by the CMO Wales Pandemic Influenza Advisory Group which concluded that the only potential area where there may be a role would be as prophylaxis for "key workers" in the face of a pandemic. Other options were considered and rejected. They acknowledged the risk of resistance but felt that that would not compromise the use of neuraminidase inhibitors.

Given that the national stockpile of oseltamivir is not being considered for such use, Wales had asked for further consideration of the issue by the Scientific Advisory Group. It was agreed to defer detailed discussion until the next SAG meeting in December, when other antiviral issues were also to be considered.

ACTION: Amantadine item to be included on agenda for next SAG meeting.

3. Joint DH-DEFRA Workshop on 6 July 2006

The Joint DH-Defra Workshop had been attended by a range of experts, including members of the Scientific Advisory Group and Defra's Science Advisory Council. The starting point for the workshop was the six questions posed to the Scientific Advisory Group by Professor Howard Dalton, relating to the evidence base for, and probability of, avian influenza acquiring human pandemic capability. The workshop was co-chaired by Dr David Harper and Professor Howard Dalton.

The specific purpose of the meeting was:

- To identify the scientific evidence base required to reduce uncertainty in assessing the risk of transmission of avian influenza from birds to the human population.
- To consider the science already being funded and opportunities for adding value to this research through regular exchange of information and collaboration.

In addressing these issues, the workshop explored the following questions:

- What are the risks of and potential routes for transmission of avian influenza from birds to humans?
- What is the risk of simultaneous avian and human influenza infection in the same individual in the UK?
- What is the risk of avian influenza developing human-to-human transmission capability?

Following some excellent presentations there was a lively discussion. The meeting had helped identify some fundamental gaps in our understanding, which made it impossible to quantify the risks at the present time. The full minutes of the workshop will be made available on the DH website at <http://www.advisorybodies.doh.gov.uk/sagpf/index.htm>

It was agreed that DH and Defra should continue to work together to identify areas for collaboration and formulate recommendations for future research. A further joint meeting would be held within the next year.

It was noted that a Pandemic Influenza Joint Research Funders Group had been established and was due to meet on 22 November, jointly chaired by David Harper and Prof Sally Davies.

ACTION: Secretariat to ensure note of workshop available on the DH website and check available on Defra website.

4. ECDC update on human and animal influenza infections and risks in Asia

Indonesia remains a problem, with ongoing, poorly controlled outbreaks in poultry and further human cases.

Professor Angus Nicoll had recently visited China. Some concern was expressed about the priority being given to avian influenza there, although there were signs of increasing opportunities for collaborations.

It was noted that a Chinese pharmaceutical company was undertaking clinical trials of an H5N1 vaccine and some links to the vaccine company had been established. It agreed that DH should explore what information could be gathered from China on human vaccine development with a view to exchanging data.

Hong Kong's preparations, especially regarding health care services, might be relevant to UK planning.

ECDC is preparing a report for the European Commission this autumn on the state of pandemic influenza preparedness across the EU Member States (without naming countries). Key issues remain similar between countries.

An ECDC discussion paper on the use of antivirals for management of influenza was provided for information and comment.

5. United States' targeted layered containment strategy

Professor Neil Ferguson gave an overview of the work underpinning the US's consideration of a 'targeted layered containment' (TLC) strategy, focussing on community-based, non-pharmacological interventions to limit the spread of pandemic influenza. The strategy is based on modelling using epidemiological and social parameters. It was noted that the US currently has a limited antiviral stockpile and a 'tool box' of infection control and social distancing measures are an important aspect of the US response aimed at breaking the cycle of transmission.

Experience with SARS had shown that a small number of infected patients were responsible for a large number of secondary infections. An element of the targeted layered containment strategy is therefore targeting those groups/individuals within a community who are likely to be 'super spreaders' of influenza, in order reduce R_0 to <1 . The strategy includes a range of measures including school closures, social distancing and household quarantine and uses several strong assumptions about the role of particular groups in transmission.

SAG noted that there is likely to be wide heterogeneity in age (or other group) specific attack rates and unpredictable variation in infectiousness even within such groups. It will therefore be difficult to target the strategy. It was also

noted that such a strategy could be vulnerable to regional variation – i.e. if unsuccessful in some places the population benefits could be reduced – and seasonality. It was also noted that the interventions would need to be kept in place, with high levels of compliance, until vaccine was available – this would take at least 6 months. Maintaining the interventions for even 3 months would be highly disruptive. It was agreed that SAG should re-visit this issue in the future when the US plans are further developed.

6. SAG Modelling Subgroup

6.1 Modelling and implications, revised high level summary, August 2006

This paper summarised the current thinking and advice of the SAG Modelling Subgroup. For each area considered, the paper outlines what we know, the gaps in knowledge which need to be filled, and work still to be done. The Group endorsed this paper as being an accurate reflection of the current position. It will be posted on the DH website and updated as necessary.

It was noted that work was ongoing at HPA to explore possible local/regional variations in clinical attack rate and the shape of the epidemic curve.

6.2 Absenteeism

This paper outlined the latest modelling of the impact of an influenza pandemic on absenteeism, and the modifications which were now being recommended for inclusion in the revised contingency plan.

It was noted that estimation of the absenteeism directly caused by illness during an influenza pandemic is complex due to the scarcity of adequate data. Other factors such as the necessity for some workers to stay at home to look after others who are sick makes analysis even more difficult.

The 2005 contingency plan assumed peak absenteeism rates of 10-15%. These estimates have now been updated. The best historical data are contained in the Ministry of Health report 'Influenza Epidemic in England and Wales 1957-1958', in which overall absence was reported to be 9-10% (22% at the peak) with an average length of absence of 1.3-1.4 weeks.

A review of the available evidence suggests that at the maximum 50% attack rate, direct illness absenteeism would peak at around 15-17% in addition to 'normal' absenteeism. The 15% figure corresponds to a 'mild' 1957-like illness and the 17% to a 1918-like illness where there are significant numbers of complications. With the base case attack rate of 25%, across the country absenteeism due to illness would be of the order of 7-8%. However, it was noted that planning should use the 50% attack rate in view of the possible local variations in attack rate and epidemic profile.

For robust planning purposes these figures should be additionally inflated to take account of those who would need to take time off work to care for others. This might be as high as 3% of the work force, giving an overall peak of 15-20% (the higher number accounting for a 1918-like disease severity and those absent to care for others) over a three week period at the height of the pandemic. The length of absence from work assumed is now 1.6 weeks.

Closing schools would add an additional 17-18%, giving a total peak absence rate of around 35%.

These figures refer to large organisations of more than 100 people spread over different sites in a city or county. Small organisations or organisational units on a single site of around 10 to 15 people should allow for 30-35% peak absenteeism due to illness alone. Some organisations, such as those employing large numbers of mothers of school age children, might be particularly badly affected by staff taking time off to care for others and should be encouraged to carry out their own risk assessment. Absenteeism of health workers (at least as generated by illness) would be expected to follow that of the general population in both extent and timing.

The Group endorsed the paper and noted that these figures will be included in the revised contingency plan. They recommended that real time research be undertaken to confirm any changes in behaviour which might confound the predictions.

6.3 Surveillance and real time modelling

A paper provided by the subgroup outlined the current plans for pandemic influenza surveillance, and the role of modelling and analysis as a central part of the overall surveillance package. It also identified the issues that need to be addressed and the actions that need to be taken to ensure the surveillance package delivered is fit for purpose.

It was noted that there are two important roles for modelling and analysis: deriving forecasts of the likely course of the epidemic and describing the current situation. Though the former role is perhaps more obvious, both are equally important.

During the pandemic, data will be collected from the devolved administrations and from the following sources for England: Regional Health Protection Units (first few hundred cases), laboratory facilities (virological and bacteriological surveillance), NHS direct, GPs, Acute care trusts (routine health impact data), Hospitals (sentinel surveillance), ONS (death data) and the MHRA (national yellow card scheme for reporting adverse reactions to medicines and vaccines).

In order to ensure the overall surveillance package is fit for purpose, it was noted that the following steps are necessary:

- Develop and agree a strategy for collecting information on the rate at which antivirals are being used (DH lead; to be addressed by the Healthcare PIG).
- Clarify the internal (DH) arrangements for managing the pandemic response, and the role of groups such as the Scientific Advisory Group during the pandemic itself (DH lead; refer to the Pandemic Influenza Management Group?).
- Formulate a detailed plan specifying what data the two modelling groups will have access to when (HPA lead).
- Ensure detailed protocols and guidelines for investigating the first few hundred cases are agreed and disseminated to regional HPUs (HPA lead).
- Work with ONS to ensure the timely release of the number of deaths by date of death (DH lead).
- Develop and agree a detailed plan for presenting data on the number of cases and deaths (and any other data for which similar presentational issues apply) (DH lead, but HPA advice crucial).
- Agree exactly what is to be reported and how often reports are to be submitted for each WHO phase and each UK alert level (DH lead; in progress).
- Agree exactly what will be reported to the NHS, who will be responsible for this reporting, and how the information will be presented (DH lead).
- Develop and agree a strategy for evaluating the effect of individual interventions such as school closures (DH lead).
- Ensure that plans are in place to conduct appropriate serological surveys as required (DH lead).

The Group noted the ongoing work to address surveillance needs and the actions required to move this work forward.

It was noted that the database of the first few hundred cases in the UK will be important in characterising the virus in the early stages of the pandemic and resource in evaluating these cases will be required. It would be useful to test/exercise this database.

ACTION: An update on the first meeting of the Surveillance Pandemic Influenza Group to be given at a future SAG meeting.

7. DH update on pandemic influenza-related work

Professor Lindsey Davies gave an overview of the new DH management structure for pandemic influenza preparedness.

A Pandemic Influenza Management Group (PIMG) has been established, chaired by Professor Lindsey Davies. Seven Pandemic Influenza Groups (PIG's) are responsible for a range of workstreams and report to the PIMG. Their objectives are as follows:

Overall Aim

To lead the development of key policies and implementation plans for pandemic preparedness.

Healthcare

To ensure that robust plans and logistics are in place for the delivery of healthcare during a pandemic, that these arrangements are communicated to the delivery agents and that assurance arrangements are in place to ensure that delivery plans are capable of being implemented.

Surveillance

To ensure that arrangements are in place for data to be captured, evaluated and communicated during a pandemic

Social Care

To ensure that robust plans are in place for the delivery of social care services during a pandemic, that roles and responsibilities are clear and that advice and guidance is available.

Procurement

To agree the procurement requirements for a pandemic, confirm the funding available and organise the purchase and storage of equipment and supplies.

Legal, International and Cross Government

To ensure that there is a joined up approach across Government to management of a pandemic and that legal and international implications are addressed.

Pharmacy/Prescribing

To focus on the medicines and prescribing requirements during a pandemic and to ensure that arrangements are in place to support healthcare delivery.

Communications

To ensure that the communications materials and messages are brought together in support of the overall vision for pandemic preparedness.

Dr Elaine Gadd outlined the structure and remit of the new Committee on Ethical Aspects of Pandemic Influenza (CEAPI) which was established following the recommendation of the CMO. This will focus on the ethical issues arising from pandemic influenza in health and social care, including prioritisation strategies, and in public health.

The Group welcomed these developments.

8. Outstanding issues

8.1 Near Patient Testing (NPT) Consensus Statement

Previous HPA papers submitted to the Scientific Advisory Group have described the near patient tests available and discussed the rationale for and

against their use for human cases of avian influenza in the pre-pandemic phases and for pandemic influenza when the epidemic reaches the UK. Additionally, different locations for the use of NPT – A&E, GP surgeries, laboratories – have been discussed.

Dr Nigel Lightfoot presented a paper summarising the current situation, and highlighted developments since the most recent submission to SAG in January 2006.

Rapid laboratory diagnosis will be available within 6 hours for early cases. Near patient tests for influenza, and for H5N1 in particular, continue to be commercially developed and promoted, and are improving. However, before such a test can be widely adopted by the HPA or indeed the NHS, a thorough assessment should be undertaken to ensure the robustness, sensitivity and specificity of the test, as well as considering issues such as cost and ease and rapidity of use.

HPA modelling previously submitted to SAG demonstrated that near patient testing for pandemic influenza may only be slightly more cost effective than just treating patients in the first couple of weeks of the epidemic in this country (i.e. approximately the first 1% of cases). This in itself relies on the test being sufficiently sensitive, specific and cheap.

HPA's position on NPTs for influenza remains that dipstick tests should be available at all routine diagnostic microbiology laboratories to be used in specific situations. Dipstick testing should not be used for all routine cases where clinical diagnosis will be sufficient.

If a test were recommended it would need to be in place, and it was suggested the Inspector of Microbiology may have a role in this.

The HPA continues to recommend that a coherent policy for diagnostic provision across London is developed. This should be determined by patient and specimen flow and should embrace discussion with major teaching hospitals.

The Group endorsed the consensus statement.

8.2 Infection control guidelines evidence base

A document outlining the references containing the evidence base was provided to the Scientific Advisory Group. The Group noted that a review of the evidence base is ongoing and will be completed early in 2007. This will be presented to the SAG when complete.

ACTION: Secretariat to ensure infection control evidence base is presented to the SAG at a future meeting.

8.3 Public use of masks

It was noted that there is currently no evidence base to underpin a recommendation on the use of masks by the general public during a pandemic. The view of HPA (also ECDC) is that, in the absence of data, DH should take a permissive approach. HPA will provide a paper for the next SAG meeting consolidating the advice on use of masks during a pandemic following recent international discussions.

ACTION: HPA to provide a paper on masks for the next SAG meeting.

8.4 Exercise Shared Goal feedback

Janet Meacham gave verbal feedback on the outcome of Exercise Shared Goal held in June 2006. The complexity of communications across-Government and with other stakeholders was highlighted during this exercise.

A Phase 5/6 exercise (Winter Willow) will be held in January/February 2007.

9. Research and Development

Dr John Stephenson explained that £4 million had been committed by the MRC for influenza-related research, with another tranche of proposals due to go to the Infection and Immunity Board shortly. The first Cross-Government Funders Co-ordination Group was in November, and a group is already looking at research that needs to be done during a pandemic, chaired by Professor Brian Duerden.

The group raised the importance of sociological research.

ACTION: MRC to feedback on MRC funded research.

ACTION: Feedback on research meetings to be given at next SAG Meeting.

10. Future Agenda Items

Agenda item	Scheduled for
Amantadine, detailed discussion when considering other antiviral issues	Dec 2006
Targeted layered containment strategy	Future
Surveillance PIG update	Future
Infection control evidence base	Future
Research and Development feedback	Future

ACTION: Group to forward any items they would like to be included at future meetings to the Secretariat.

11. AOB

This was Jane Dr Jane Leese's final meeting, and her contribution to the Group's work was acknowledged. Dr Elaine Gadd will be taking over support for the Scientific Advisory Group as secretariat lead.

12. Next meeting

The next meeting will be held on Tuesday 12th December 2006, 10am-1pm at Richmond House, Cathedral Room.