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ADVISORY COMMITTEE ON DANGEROUS PATHOGENS

Secretariat Report for the 94th meeting of the ACDP, and matters arising from previous meetings.

This paper includes reports on progress made with matters arising from the last meeting, reports from ACDP Working Groups and other relevant advisory committees as well as other items that may be of interest to members

Matters arising from the 93rd meeting:

A/H1N1 pandemic influenza in pigs - worker protection

1. HSE and Defra have recently met with representatives from the National Pig Association (NPA) to consider:
    - The transmission of nH1N1 flu virus from pigs to pig farm workers.
    - The risks to farm workers' health
    - The need to issue further guidance to the pig industry

2. After a lengthy discussion it was concluded that the probability of nH1N1 virus transmitting from pigs to pig farm workers was very low and consequently the overall risk to the health of pig farm workers was also very low. On this basis, it was concluded that the existing advice in HSE Information Sheet No 2 'Common Zoonoses in Agriculture' was adequate and sufficient. It was not considered necessary to issue additional advice to pig farmers, particularly about the selection and wearing of respiratory protective equipment. The NPA have agreed to respond to specific enquiries from its members.

3. However, it was agreed that this position would be kept under review in the light of recent outbreaks of influenza in UK pig herds.

ACDP guidance on blood-borne viruses

4. Members will recall HSE agreed to review outstanding legal issues in Part 2 and complete final editing of the guidance document. This work has now been completed and the draft is ready to be presented to HSE's Communications Directorate for professional editing, prior to publication. Expectations are that the document will become public within the next two months.

Needlestick injuries and the use of safe devices

5. Following on from discussions at the last meeting on the use of "safe devices" to prevent needlestick injuries in healthcare, the Secretariat agreed to seek legal opinion on the application of COSHH. There is no definition of engineering control in COSHH. However in the absence of a legal definition

such words are likely to be given their normal everyday meaning. An engineering device in this sense would be a piece of equipment specifically designed and made with the intention of containing a biological agent and thereby preventing it causing harm. It is likely therefore that "safe devices" would be deemed to be engineering measures. This may depend on the nature of the device, however preventing the biological agent left inside the needle from escaping and causing harm becomes the important criteria.

6. Employers are required to comply with their duties of control under regulation 7 of COSHH, by applying protection measures appropriate to the activity and consistent with their risk assessment including in order of priority;

    a) design and use of work processes, systems and engineering controls and the provision of suitable work equipment and

    b) materials and appropriate organisational measures.

7. Are therefore "safe devices" as engineering controls a mandatory requirement over and above other control measures? COSHH states that control measures must be appropriate to the activity and consistent with the risk assessment in order of priority. The first priority goes to the measures listed in Para (a) above and an employer must consider the assessment and look to the first list of controls and see if injuries can be controlled by the use of one or more of those measures.
   For example can control be secured by the means of the design and use of work processes and the provision of suitable work equipment alone. If so, it may not be necessary to use engineering controls. If however, in spite of employing this approach needlestick injuries continue to occur then an employer may not be adequately controlling the risk and if other devices are available such as "safe systems" that would otherwise prevent those injuries, then they should be used. With regards to the "Eye of the Needle" report, in relation to accidents involving Health Care Workers the view is that exposure incidents were amenable to behavioural change and the number of incidents liable to be reduced if the procedure were performed properly. Similarly the report suggests the majority of injuries which occurred after a medical procedure e.g. when clearing medical waste or recapping needles were preventable with proper adherence to safe handling procedures.

8. The report also suggests however that where exposures are a result of "complex exposure prone procedures" such as surgery or procedures performed under emergency conditions there is a role for "safety devices" in reducing these procedure related incidents. The implication being that the nature of the task is such that whatever procedures are in place some needle-stick injuries with unprotected needles or sharps are almost inevitable.

9. In a situation where controls such as adherence to safe handling procedures are sufficient to prevent injuries, an argument could be made that they are suitable. However, in the case of "complex, exposure prone procedures" such as surgery or procedures performed under emergency conditions (highlighted in the "Eye of the needle" report) where needle stick injuries appear to be regarded as inevitable. There could be a strong argument that equipment provided without the available safety devices are were not suitable.

10. Clearly employers are open to purchasing safe devices as part of their general strategy of preventing needlestick injuries if they so wish.

H1N1 Surveillance

Influenza Viruses in Pigs

11. Pigs are susceptible to influenza virus infection and some strains of influenza viruses circulate widely in pigs throughout the world. These are generically termed 'swine influenza' viruses and are considered endemic in most pig producing countries, including the UK.

12. In Europe, the influenza viruses commonly seen are Type A Influenza viruses and include 'avian-like' H1N1, H1N2 and H3N2. Classical swine H1N1 has not been identified in the UK for some years.

13. The influenza virus is predominantly confined to the respiratory tract of pigs and does not cause generalised infections.

14. Clinically, influenza infections in pigs presents as a range of signs, based on prior immunity to other Influenza viruses and commensal infection and may present from subclinical infection through symptoms including inappetence and lethargy to coughing and profound respiratory distress. The majority of affected pigs fully recover within a short timescale.

15. Type A strains can also infect other species, including people, birds & domestic animals, although the strains of virus involved are usually different.

16. The current "swine flu" situation relates to the influenza A pandemic H1N1 2009 virus causing illness in people.

Scanning Surveillance for Influenza viruses in pigs

17. In Great Britain, surveillance for influenza viruses in pigs has been conducted since 1991. This is funded by Defra in England and Wales and delivered by the Veterinary Laboratories Agency (VLA) and in Scotland by the Scottish Agricultural College (SAC) with funding from the Scottish Government.

18. The VLA scanning surveillance programme selects cases for subsidised (free of charge to the vet and farmer) influenza diagnostic testing based on a clinical algorithm. Information for farmers and vets on this surveillance programme can be accessed at: www.defra.gov.uk/vla/diseases/docs/dis_si_info.pdf.

19. Influenza viruses can transmit from humans to pigs. Seasonal flu strains occasionally do this, and it has not led to an influenza virus more dangerous to public health. For example, following the H3N2 pandemic of 1968 when influenza virus moved into pigs worldwide shortly after its appearance in humans, it continued to evolve independently in pigs and these viruses did not lead to the production of a more transmissible or virulent strain for humans.

20. The characteristics and behaviour of this virus, as with all influenza viruses in pigs, will continue to be monitored closely as part of our Defra scanning surveillance programme.

21. Defra continue to take this developing situation very seriously and will maintain our surveillance effort, and ensure we keep the public and industry informed of any developments.

The Influenza in Pigs: Code of Practice

22. The pig industry, working closely with Defra, Scottish Government and Welsh Assembly Government, has produced a Code of Practice for pig keepers focussed on influenza in pigs. This voluntary Code provides advice for pig keepers on how to protect their pigs against influenza virus infections, including ways to reduce the risk of influenza incursion into their herd and how to minimise onward spread if influenza is introduced. This guidance is particularly pertinent at present given the spread of pandemic (H1N1) 2009 virus in the human population and can be accessed at: www.defra.gov.uk/foodfarm/farmanimal/diseases/atoz/swine-flu/documents/cop090803.pdf

23. The guidance is consistent with European Commission guidance to Chief Veterinary Officers specifically related to pandemic (H1N1) 2009 virus.

24. The Code provides an introduction to swine influenza and its clinical signs and guidance on:

    - How to reduce the risk of influenza entering pig herds;
    - What to do if influenza is suspected in pigs;
    - Managing influenza in a pig herd;
    - Returning to normal following an incident of influenza in a pig herd;
    - Where pig owners/keepers can get more advice.

25. Defra's advice to pig keepers is that they have an influenza-like illness they should stay out of contact with pigs. This information is contained within the Code of Practice. Defra also continue to advise pig keepers to ensure they have good biosecurity procedures in place, something which is important at all times.

Current situation – pandemic H1N1 2009 worldwide

26. Pandemic H1N1 2009 has been confirmed in pigs in many other countries including Argentina, Australia, Canada, China, Denmark, Finland, Northern Ireland, Norway, Hong Kong, Indonesia, Japan, Iceland, Ireland, Italy, Taiwan, and the USA.

27. Routine scanning surveillance for influenza in pigs led to the confirmation of five cases of pandemic H1N1 2009 in Northern Ireland and two cases in England. This is not unexpected as the pandemic H1N1 virus is circulating worldwide, including in the EU. Northern Ireland has made suspicion of influenza in pigs notifiable.

28. Genetic sequencing undertaken by the VLA show that the pandemic H1N1 virus identified in the UK is virtually identical to the virus currently circulating in humans.

29. Transmission to pigs is not unexpected and there is no evidence that pigs play any significant role in transmitting human influenza to people, and thus the main risk to people remains through transmission in the community from person to person spread.

30. There is no food safety risk, pandemic H1N1 2009 has not been shown to be transmissible to people through eating properly handled and cooked pork or pork products.

Latest Situation – Report of pandemic H1N1 2009 Influenza virus in Turkeys

31. There are no current reports of pandemic H1N1 2009 in turkeys in the UK, though sporadic cases have been confirmed in Canada, Chile and the USA.

32. The only clinical sign noted has been a transient drop in egg production.

33. Recent exposure of the turkeys to farm workers exhibiting influenza-like symptoms is the most likely route of transmission.

Latest Situation – Report of pandemic H1N1 2009 Influenza virus in domestic species

34. There are no current reports of pandemic H1N1 2009 in domestic animals the UK, though sporadic cases (in cats, ferrets and a dog) have been confirmed worldwide.

35. Confirmation of pandemic H1N1 2009 in domestic animals is not unexpected. Cats, dogs and other companion animals are known to be susceptible to infection from other Influenza A viruses.

36. Advances in veterinary diagnostics make it more likely that a diagnosis will be reached for any domestic animal exhibiting signs of influenza.

37. Sporadic incidences in domestic animals does not mean that the pandemic H1N1 2009 will become established in these species or pose an increased risk to human health.

38. Contact with infected owners in the domestic setting is the most likely route of transmission to domestic animals.

39. Owners of domestic animals should routinely practise basic hygiene measures, including hand washing, when interacting with their pets.

40. Further testing of this novel H1N1 virus and its ability to infect other species would be required before Defra adequately ascertain risk.

Future initiatives

41. Defra are working with the European Commission and the World Organisation for Animal Health (OIE) to gather additional information and keep the risks under constant review.

42. Defra is co-funding with the research councils, Biotechnology and Biological Sciences Research Council (BBSRC), Medical Research Council (MRC), and the Wellcome Trust two proposals to strengthen the scientific evidence base on Influenza in Pigs:

    - Project One covers a ‘field population’ study to better understand the dynamic of Influenza infection in pig herds.
    - Project Two, entitled the ‘model project’, is to use in-vivo systems and study the impact of prior immunity on infection with pandemic H1N1 virus.

In this study pigs will be prior immunised by natural exposure to contemporary avian-like H1N1 virus to provide a dynamic model of infection in pigs.

Polio

43. The Department of Health's UK Working Group for Containment of poliovirus met on 20th January. HSE presented the results of their audit of laboratories on the national inventory of polio containment. The original inventory consisted of 121 laboratories of which only 26 have signalled their intention to retain stocks. The findings will be included in a report to the World Health Organisation and all 26 laboratories will be re-contacted in order to update the national inventory. The working Group plans to meet annually with the next meeting in January 2011.

Reports from ACDP Working Groups

ACDP TSE Working Group

44. The TSE Working Group has met once since the October ACDP meeting, on the 12th January 2010.

Part 4 - Infection control of CJD and related disorders in the healthcare setting

45. Part 4 of the guidance on infection control of CJD, vCJD and other human prion diseases in the healthcare and community settings has been updated to include new advice from the Working Group. The new Part 4 is currently being finalised and will be published following final approval by ACDP.

Annex J - Assessment to be carried out before surgery and endoscopy to identify patients with, or at increased risk of CJD/vCJD

46. At the last meeting the Working Group variant CJD was removed from the list of identified risk exposures in the context of dura mater grafting. This decision was made on the basis of there having been no cases of iatrogenic CJD, associated with dura mater grafting, which could be identified as due to the variant form. The main reason for the decision however, was the information provided by the Company about the countries of origin of the clinical material. The total lack of any cases of vCJD from most of these countries together with the time of collection (1976-1987) was considered to render the risk of transmission of vCJD by this material extremely low. Annex J will be changed to reflect this.

Annex H – After Death

47. The Association of Anatomical Pathology Technologists wrote to the Working Group last year with suggestions for revisions to Annex H which deals with what to do when a patient with CJD or vCJD dies. The Working Group is currently revising Annex H to take into account some of these recommendations.

Other matters

Xenotropic murine leukemia virus-related virus

48. Xenotropic murine leukemia virus-related virus (XMRV) is a gammaretrovirus first described in 2006 as a virus potentially associated with prostate cancer. More recently, an association with chronic fatigue syndrome (CFS) has been claimed. In this published US study, 68 of 101 (67%) samples analysed from CFS patients contained XMRV by PCR, while 8 of 218 (3.7%) healthy controls contained XMRV (see Lombardi *et al* paper attached). This paper raised questions about the possible role of XMRV in the pathogenesis of CFS and also the potential that millions of healthy people may be infected with this virus of unknown pathogenic potential.

49. Additionally, in Japan the prevalence of XMRV in blood donors was reported to be 1.7% based on detection of antibody to XMRV gag (env antibody not detected). Thus, the UK blood services undertook a new assessment to consider the position of donors/ potential donors with a history of CFS as infected human hosts can be expected to carry the virus in both cells, and perhaps as cell-free virus in the plasma. The Joint UKBTS/NIBSC Professional Advisory Committee was asked at its last meeting to endorse the risk assessment and give consideration to the need to seek a history of recovered CFS in donors and potential donors.

50. A recently published UK study reported blood samples from 186 patients with CFS were analysed for XMRV virus with all negative results (see Erlwein *et al* paper attached). The results of this paper show no link between XMRV and CFS. Moreover, no other laboratory in Europe or the US has managed to reproduce the results of Lombardi *et al*. Further experiments are currently underway and the data on these are awaited to help clarify the role of XMRV.

51. This is for information to ACDP Members at present. A formal risk assessment may be required in the future.