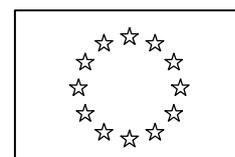




Pandemic influenza preparedness planning

**Report on the second joint WHO/European Commission
workshop, 24–26 October 2005**



European Commission

Keywords

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The workshop on pandemic influenza has seen the participation of nearly all the Member States in the European Region of WHO, proving that collaboration in this area is considered central to the partnership between Member States, EC, ECDC and WHO.

We would also like to thank participants from the Member States for their willingness to chair and facilitate the working groups (Dr Monique Coppens, Dr Steffan Glismann, Dr Kuulo Kutsar and Dr Anders Tegnell). The report of the meeting was prepared by Dr Caroline Brown, Dr Massimo Ciotti, Dr Angus Nicoll, Dr Denis Coloumbier, Dr Olaf Horstick and Dr Bernardus Ganter. We would also like to acknowledge the key role played by the administrative staff of DG SANCO and the WHO Regional Office for Europe.

1. Introduction

Influenza pandemics (worldwide epidemics) have occurred at irregular and unpredictable intervals and have been associated with substantial morbidity, mortality and economic cost. The influenza A virus can cause pandemics: these occur as a result of changes in the virus leading to a sub-type to which no one has immunity, which can spread easily among humans and which can give rise to serious disease. Appearance of such a subtype may lead to several simultaneous epidemics worldwide, resulting in high numbers of cases and deaths and placing an immense burden on health care systems. With increasing globalization and urbanization, epidemics caused by a new influenza virus are likely to spread rapidly around the world. The previous three pandemics occurred in 1918, 1957 and 1968 and although it is not possible to predict when an influenza pandemic is likely to occur, the risk is considered real enough to justify preparations being made.

Preparing for the next influenza pandemic requires multidisciplinary support and collaboration from partners at the local, national, regional and international levels. National preparedness planning is not a quick or simple process and will require time, a multisectoral approach, the involvement of communities and commitment from the highest political levels. The failure to control the H5N1 avian influenza (AI) outbreak in south-east Asia, including incidental human cases, and the introduction of this virus into the European Region have put the Region on alert. As a result, controlling AI outbreaks and preventing the spread of the H5N1 virus to humans have placed avian influenza firmly on the agenda of influenza preparedness planning.

In response to the potential of a pandemic occurring, WHO and the European Commission (EC) jointly organized a two-day workshop on national pandemic influenza preparedness planning in Luxembourg on 2 and 3 March 2005. EC hosted the workshop in Luxembourg, during which guidance was given to Member States on developing influenza pandemic preparedness plans using the WHO checklist for influenza pandemic preparedness planning. This checklist provides a framework for a systematic public health approach that addresses influenza preparedness planning in five areas:

1. Planning and coordination;
2. Situation monitoring and assessment;
3. Prevention and containment;
4. The health system response (organization and management of health services during influenza pandemics); and
5. Communication and information services for the public.

The goals of the second workshop described here were to assess the progress in preparedness planning and to identify ways of making the plans operational.

Objectives of the workshop

The objectives of the second pandemic planning workshop were to continue to improve understanding of the planning for and management of a possible future influenza pandemic. Planning for such an event may help to reduce transmission of the pandemic virus, decrease the number of cases, hospitalizations and deaths, reduce the impact on essential services and the economic and social impact of the pandemic, and improve the implementation of medical and non-medical interventions.

The specific objectives of the workshop were:

- to review the current AI situation and the pandemic threat, with special emphasis on surveillance and response in south-east Asia and the European Region;
- to review in detail the lessons from the assessment visits to six Member States;
- to continue work on national preparedness plans and, specifically, to focus on making the plans operational, as well as to further discuss and analyse topics such as intersectoral preparedness, risk communication, surveillance and laboratory objectives and systems, AI outbreaks and the handling of human cases;
- to analyse cooperation and harmonization of plans between neighbouring countries on travel and border measures, community-based measures and sharing of information and resources.

Participants

The 80 participants included public health specialists, epidemiologists, communicable disease specialists, microbiologists, virologists, immunologists, preparedness planning specialists and staff of funding agencies. They represented 48 of the 52 Member States in the European Region of WHO and several entities. Staff from the United Kingdom Department of Health, (the current

holders of the European Union (EU) presidency), EC, the European Centre for Disease Prevention and Control (ECDC), the European Food Safety Authority (EFSA), the European Medicines Agency (EMA), the European Vaccine Manufacturers (EVM), the World Organization for Animal Health (OIE), the United States Centers for Disease Control and Prevention (CDC) and WHO (headquarters and the regional offices for the Western Pacific and for Europe) also participated in this event.

2. Opening session

Representatives of the WHO Regional Office for Europe, EC, the United Kingdom presidency of the EU, the stability pact countries and ECDC welcomed workshop participants and gave opening speeches. All endorsed the continued close collaboration between EC, ECDC, WHO and other international agencies. It was also stressed that, although it was timely, this was a technical, not an emergency, meeting.

Gudjon Magnusson, WHO Regional Office for Europe, welcomed participants to the workshop on behalf of the Regional Director, Marc Danzon, and expressed the need to scale up the response to the pandemic threat. At the first joint workshop in Luxembourg in March 2005, 31 countries had had a pandemic plan and an increase in this number at the second workshop would be a measure of the success of these meetings. The need to implement plans, at both national and local levels, was stressed.

Fernand Sauer, European Commission, stated that progress in preparedness had been made since March 2005. A comparison of pandemic plans from EU countries showed convergence but also weaknesses with respect to operational issues, and contingency plans for non-health sectors were largely lacking. That comparison, together with the country assessments that had been performed and the EU desk-top exercise "Common ground" in November 2005, would give an overview of preparedness in the EU. The smallpox exercise to test communication had been useful, and the lessons learned would be incorporated in "Common ground". A draft of the reviewed EU working document on pandemic preparedness would be available at the beginning of November. To allay public concern about the arrival of the H5N1 virus in the European Region, it is crucial to distinguish between avian and pandemic influenza. Countries experiencing outbreaks of AI are in control of the situation and there is collaboration on many fronts, including between veterinary and medical authorities in the context of donor conferences. The EU is exploring ways to support actions outside the Community. In line with this, Member States have received a questionnaire addressing the issues of seasonal influenza vaccination uptake, backing the EC's efforts to develop pandemic vaccines, sharing antivirals and vaccines with countries where the pandemic strikes first, and exchanging recommendations on mask usage and hygiene.

Gerard Hetherington, the United Kingdom's presidency of the EU, stated that pandemic influenza exemplifies the need for collaboration; initiatives to that end under his country's presidency included the EU informal meeting of ministers in October and the "Friends of the Presidency" group. The Copenhagen workshop underscores the need for coordinated action and will provide input for the joint WHO, OIE and Food and Agriculture Organization of the United Nations (FAO) funding meeting in November. The adoption of the revised International Health Regulations in May 2005 provides the basis on which to strengthen surveillance.

Mila Vucic-Jankovic, Serbia and Montenegro, representing the Stability Pact countries, gave the (near) eradication of poliomyelitis and measles as examples of where collaboration has worked. Pandemic influenza represents a new challenge and governments must put resources into outbreak investigations, antivirals, vaccines and other health measures. We must not be caught sleeping.

Denis Coulombier, European Centre for Disease Prevention and Control, speaking on behalf of the Director, Ms Zsuzsanna Jakab, described ECDC's tasks relating to pandemic influenza: risk assessment, surveillance and assisting the EC in strengthening preparedness. Influenza has a high priority for the Centre, and close collaboration has been established in a short time between the EC, both public health and veterinary agencies, EFSA and WHO. Joint EC/ECDC/WHO country visits to assess pandemic preparedness in the Region have been carried out, using an assessment tool developed by ECDC and available to all Member States. ECDC has developed guidelines for limiting occupational exposure to AI and a risk assessment. Plans to expand seasonal influenza surveillance to include AI outbreaks and pandemic influenza are under discussion with the European Influenza Surveillance Scheme (EISS). Future activities include a bulletin of epidemiological influenza activity, additional country visits, development of a generic preparedness plan and continuous monitoring of the threat of emerging influenza viruses.

3. Summaries of presentations

Presentations made on the first day provided background information for workshop participants on the current situation regarding AI and the pandemic threat, on the tools needed to respond to that situation, on developments in pandemic vaccines and antivirals, including modelling studies, and on the challenges (both medical and non-medical) that would be faced during a pandemic. Presentations on the morning of the second day focused on regional and country preparedness, based on assessments and a questionnaire. A summary of these topics is provided below.

Session 1: Overview of the pandemic threat and tools for the response

Shigeru Omi (WHO Regional Office for the Western Pacific – WPRO), described the origin and extent of the current outbreak of H5N1 AI in south-east Asia, which was most likely due to the high concentration of poultry and people in the Region, the five-fold increase in poultry production in the past 20 years, unhygienic practices on backyard farms and the close proximity of ducks (which have become a silent reservoir), chickens and people. Although the virus has now spread via Mongolia and Kazakhstan to the European Region, Asia still has the largest reservoir of H5N1 and represents the greatest risk to human health. The 118 cases documented so far have been severe or fatal (62). Transmission from animals is likely by the respiratory and possibly mucosal route, via contaminated water, and two possible cases of human-to-human transmission have been reported. Exposure of poultry workers and their involvement in culling have so far not resulted in the development of disease. The speaker stressed that it is hard to control the virus once infection is established, even though outbreak control in industrial farms in Thailand has been successful. Europe, with chiefly industrialized animal husbandry practices, the still localized geographical spread of the virus and a high level of resources, is in a good position to prevent this virus from gaining a foothold.

Willem Droppers (OIE) described joint OIE/FAO/WHO short- and medium-term actions for AI control and capacity-building in south-east Asia. In the short term, the disease will be localized to several countries, with subsequent progressive eradication. In the medium to long term, vaccination and zoning will be introduced, and in the long term restructuring of the poultry industry will be undertaken. OIE has an early warning system and OFFLU, the FAO/OIE network for AI, provides expertise to assist countries in AI control and surveillance. The global framework for control of transboundary diseases (GF-TADS), which is a joint initiative of OIE and FAO and has regional support units, is currently under development. Sharing information and adopting an integrated approach at global and regional levels are critical for the global early warning system.

Alberto Laddomado (EC) described actions taken by the EU to prevent AI outbreaks subsequent to the first outbreaks of highly pathogenic avian influenza (HPAI) in Europe, which occurred in 1997 (H5N2) and 1999 (H7N1) in Italy and in 2003 (H7N7) in the Netherlands. These include an improved legal basis for dealing with outbreaks at Member State level, establishment of the European Food Safety Authority (EFSA), vaccination trials using the DIVA (Differentiating Infected from Vaccinated Animals) approach and the new European directive for surveillance of low pathogenic avian influenza (LPAI) in poultry. To combat the H5N1 threat, there is an embargo on poultry imports, increased surveillance in wild and domestic birds, tighter biosecurity on farms, and an expansion of laboratory capacity and technical support to affected countries. There is close cooperation between EU Member States and EC and a high level of preparedness.

Maria Pitman (EFSA) described the tasks being carried out by the Authority, which are to provide the scientific basis for measures to control AI in Europe and to review the risk of the introduction and spread of LPAI and HPAI in Europe by live birds and poultry products, together with the role of backyard farms. The endemicity of the H5N1 infection in Asia may have resulted in a “spill-over” to resident and migratory birds. The involvement of migratory birds in the spread of the outbreak suggests that the HP-H5N1 virus may behave as an LPAI virus in these birds. For control, EFSA endorses stamping out for limited outbreaks and vaccination for large outbreaks. Future tasks include wild bird epidemiology with respect to HPAI and ongoing updates on AI developments.

Angus Nicoll (ECDC) described the response of ECDC to the outbreaks of H5N1 in the European Region. A rapid assessment of AI risk to human health has been performed and occupational guidelines and advice have been given to those in affected areas. The guidelines emphasize that recommendations on the use of antiviral drugs for exposed persons should be based on a local risk assessment. ECDC and WHO occupational guidelines may differ, owing to differences in implementation between the European Region and globally. The fact that the number of human cases in south-east Asia has remained low, despite millions of people being exposed to H5N1, indicates that the virus is poorly adapted to humans, perhaps less so than the HP H7N7 virus of the Netherlands outbreak in 2003, where human-to-human transmission and asymptomatic infection were reported. The pandemic threat has not increased after the introduction of H5N1 to Europe, and there is a very low risk to humans if proper precautions are taken. The risk of infection can be minimized by good hygiene, avoiding unnecessary contact with live poultry and faeces, and avoiding contact with sick or dead birds and raw poultry products.

Guenael Rodier (WHO/EURO) gave an update on avian influenza outbreaks in the WHO European Region. Outbreaks of H5N1 in the eastern part of the Region have led to intensified

surveillance, and the likely dissemination by migratory birds means that more outbreaks can be expected. No significant spread in poultry and no human cases have been seen so far. The risk assessment performed by a joint WHO/ECDC team in the Danube delta in Romania endorsed the need for a multisectoral approach to control the animal/human interface, involving public health measures, agricultural and veterinary authorities, trade regulation, law enforcement and the education of hunters. This approach must be adapted according to the local situation, which in the Danube delta includes backyard poultry, industrial farms and the habits of the local population. The public must be educated and compensated for losses. Preventive measures for occupational exposure should include the use of personal protective equipment (PPE) and active follow-up of exposed individuals. Antiviral drug and seasonal vaccine use should be based on a local risk assessment. A case definition should use veterinary information from the area reporting the outbreak, and there should be immediate reporting linked to seasonal influenza surveillance. Case management requires isolation facilities at the national, regional and local levels, training in infection control, supplies of antiviral drugs (for prophylaxis of health care workers and treatment of cases) and guidelines for physicians. Samples from suspected cases must be transported safely to the national reference laboratory and isolates shared with WHO. The main challenges at the EU level are to control the wild bird/poultry interface and to mobilize resources for surveillance and vaccine development.

Session 2: Vaccines and antivirals: new developments

Neil Ferguson, United Kingdom, discussed the modelling studies performed on the effect of using antiviral drugs to contain a pandemic at source, using Thailand as an example. The results showed that there is a 90% chance of containing a pandemic at source if 3 million courses of antiviral prophylaxis in combination with stringent quarantine and social distancing measures are deployed within 2 to 3 weeks of detecting the first case. However, his presentation focused on modelling the spread of a pandemic if control at source failed, and on analysing the effect of control measures. For the United States, effective travel restrictions and border closures would delay spread by only 1 to 2 weeks, while antiviral treatment of all cases may reduce the attack rate by 10–15%, provided treatment is started on the first day of illness. Household contact prophylaxis may reduce transmission by 20% but would require much larger quantities of drugs. Closing schools on detection of the first case may reduce transmission. The speaker concluded that containment at source has the biggest effect and more resources need to be channelled into surveillance. Future research will consider staged policies, such as the use of a limited amount of vaccine at the start of a pandemic in combination with other measures.

Antiviral drug and vaccine developments were discussed by Fernand Sauer (EC), Eric Pelfrene and Patrick Celis (EMA). **Fernand Sauer (EC)** described EC-coordinated initiatives to facilitate the procurement of vaccines and antiviral drugs, including the public/private partnership for clinical vaccine trials, an EU solidarity fund for reimbursement to encourage pre-purchase agreements and Flusecure, a vaccine seed-strain bank. Member States' plans to increase seasonal vaccine uptake must be in line with industrial production capacity.

Eric Pelfrene (EMA) gave an overview of the different antiviral drugs and licenses for their use. At present, oseltamivir (Tamiflu) is licensed for prophylactic use but zanamivir (Relenza) is not. The use of neuraminidase inhibitors for groups currently excluded (pregnant women, children under 13 for oseltamivir prophylaxis) should be considered when the benefit outweighs the risk. More studies on the effectiveness of prophylaxis and treatment are urgently needed. An intravenous formulation may be beneficial during a pandemic, but realization requires EU Member State support. For large-scale use of antiviral drugs in a pandemic, a magistral

preparation of the active pharmaceutical ingredients of Tamiflu (20-litre batches) can be used: the reconstituted shelf life is 6 weeks and individual dosing is possible. The logistics of reconstituting and delivering this preparation need to be included in pandemic planning.

Patrick Celis (EMEA) described the provision of guidance documents for submitting mock-up vaccines (for which there is a 100% fee-waiver), which facilitates fast-track approval of a pandemic vaccine. An emergency pandemic crisis plan is under development, to allow assessment of the proposed strain variation for pandemic vaccine production in only three days. This plan also foresees post-authorization follow-up of antiviral drugs and vaccines and surveillance for side effects. The plan will be finalized in March 2006 and tested. Clinical trials performed so far with mock-up vaccines show the vaccine must be adjuvated, antigen-sparing and consist of whole virus. Consensus between EU Member States and industry on these issues would expedite development. Options for procuring vaccines are stockpiling (risky if the strain changes) or advance purchase agreements (APA), bearing in mind that production time will be 3 to 6 months. APA requires core dossier submission using EMEA guidelines.

Session 3: Public health challenges

Concessional and grant finances for surveillance and response were presented by **Patricio Marquez (World Bank)** and **Jacques Jeugmans (Asian Development Bank – ADB)**. Both the World Bank and ADB are supporting capacity-building for surveillance, containment and laboratory facilities in south-east Asia. ADB began supporting health projects related to emerging infectious diseases in Asia, and also in central Asian countries, after the outbreak of severe acute respiratory syndrome (SARS). Short- and medium-term actions are required to address the urgency of the situation, but sustainable solutions requiring a multisectoral approach also need to be funded. Highlighting the socioeconomic impact of avian influenza will maintain high visibility and political commitment. At the November WHO/OIE/FAO meeting in Geneva, the World Bank will announce a package of grants representing a window of opportunity for organizations committed to controlling the H5N1 virus in Asia.

Risk communication during outbreaks and pandemics, and expectations from the public, were presented by **Maria Cheng (WHO headquarters)**, **Ben Duncan (ECDC)** and **Joanne Yarwood (Health Protection Agency, United Kingdom)**. Messages about influenza need to be anticipated and planned beforehand, where possible. Having a set of messages ready (in the form of leaflets, on a website) for the different phases of a pandemic, for both national and international use, may avoid an information crisis that could occur in the event of an H5N1 outbreak. A trusted spokesperson should broadcast the message and be able to separate clearly the issues of avian and pandemic influenza. At each stage of a pandemic, tell the public what the government is doing and that there is a strategic plan. Be honest and transparent, even if the news is bad, as research shows that the public want to understand what a pandemic is, if there are antiviral drugs and what they can do themselves to help. Give them information that is applicable to the situation now, for example, travel advice in phase 4 or 5. At phase 5, it may be necessary to launch an advertising campaign to prepare people rationally and emotionally. The message must be serious, authoritative and clear, and even more so in phase 6.

Session 4: Public health measures

Shigeru Omi (WHO/WPRO) outlined the difficulties of controlling avian influenza H5N1 in Asia due to the backyard setting of the majority of outbreaks in poultry. Case studies from

countries that have or have not controlled the outbreak identified the following requirements for control: compensation of farmers to ensure reporting of outbreaks, collaboration between health and agriculture sectors including exchange of surveillance information and joint outbreak investigation and response, strong laboratory and epidemiological capacity, enforcement of public health measures and a strong public health infrastructure. Additionally, prompt action has allowed even resource-poor countries to control the outbreak. In Viet Nam, where culling has not been effective owing to insufficient compensation, large-scale vaccination of poultry is now underway. A good risk communication strategy is needed, to educate the public about the risk and avoid panic. Specimens need to be shared with WHO, a process that must be built on trust between WHO, OIE, FAO and Member States.

Angus Nicoll (ECDC) discussed the requirement for new parameters and expected overload on surveillance systems during a pandemic. For surveillance needs, pandemic phase 6 is divided into four scenarios: cases outside Europe; cases in a European country (pandemic imminent); outbreak(s) in European country(ies); widespread pandemic activity across Europe. Studies on seasonal influenza have shown a west-east spread in Europe which may buy time for countries to respond. The primary objectives of pandemic surveillance will be to detect the first cases in Europe or a country and to monitor the status of the pandemic, preferably by combined clinical and laboratory surveillance, as currently performed by the European Influenza Surveillance Scheme (EISS). Surveillance of new parameters needs to be rehearsed beforehand and could include hospital use, illness in essential workers, determination of transmission rates, case fatality rates, excess mortality and antiviral effectiveness, side effects and the development of resistance. Serosurveys will be required between the first and second waves to assess the level of immunity to the pandemic virus in the population. During the second wave, vaccine efficacy and adverse effects will need to be monitored.

Caroline Brown (WHO/EURO) discussed the requirements for laboratory surveillance. In the interpandemic phase, laboratories should ideally be able to detect all viruses known to infect humans and be prepared to detect newly emerged viruses in pandemic alert phase 3 and beyond. They are assisted in this by WHO collaborating centres (including centres for the confirmation of H5N1) who develop and distribute diagnostic reagents, advise on virus strains to be included in the seasonal vaccine and perform research. Laboratories must update protocols and biosafety procedures according to current knowledge of the virus, perform quality control assessments for detection of a new virus and have plans in place for enhanced surveillance in phases 4/5, including regional capacity if needed. They must collaborate with national veterinary laboratories and have communication channels for reporting in place. In pandemic alert phases 4/5, typing and subtyping of as many influenza viruses as possible may increase the chance of picking up the first clusters of cases. Routine testing of the new virus may be introduced at this stage, and daily reporting (tested in a normal influenza season) should be in place. Enhanced surveillance will continue into a pandemic until resources become overwhelmed. At this stage, diagnosis and treatment will be based on clinical symptoms, and laboratory surveillance will switch to monitoring a subset of viruses for evolution, antiviral resistance and emergence of other variants.

David Bell (CDC) discussed non-pharmaceutical interventions, such as quarantine and social distancing. These are a neglected area in pandemic planning, as few data are available on seasonal influenza virus transmission and none on a pandemic virus. Data from children on seasonal influenza that may mimic introduction of a new virus subtype show that the rapid spread is mainly due to the short serial interval of infection of 2–4 days. Virus shedding is maximal at the onset of symptoms, and low titer-virus shedding occurs in asymptomatic persons

but the relevance of this is not known. Plans to confine patients need to distinguish between clinically ill (require isolation, in hospital or at home) and exposed persons (quarantine at home, in an institution or “cordon sanitaire”) and provide sufficient care. Isolation measures will be more effective if patients receive health alert messages to call ahead instead of turning up at a hospital. International measures include information to travellers and various border measures. Nationally, deferred travel to an affected area is usually impractical. In 1918, entry screening and quarantine only delayed the pandemic in isolated countries. Infrared screening during the SARS outbreak was ineffective, missing all five cases entering Canada. Another option is exit screening from affected countries. National measures could include isolation of cases and social distancing with ill persons staying at home voluntarily (forced isolation did not work in 1918). The effectiveness of personal hygiene is plausible but not evidence-based. During the SARS outbreak, the effectiveness of masks in public was not proven, although an overall decrease in laboratory-confirmed respiratory illness in Hong Kong was seen. Mask-wearing should depend on a risk assessment, and more research is required.

Keiji Fukuda (WHO headquarters) discussed another neglected area of pandemic preparedness planning, the health system response. Health systems are critical and very visible, and their performance will be a gauge of preparedness. Since the reshaping of health systems and economic considerations has led to a reduced capacity to handle disease surges in some countries, surge capacity (personnel, equipment and supplies) must be planned for. Health systems will face an increase in severely ill people requiring hospitalization, an increase in outpatient demands and enquires from worried people. Staff must be protected by stringent infection control and protective equipment in some situations, and they must be monitored for illness and treated promptly if infection occurs. Staff-to-patient ratios can be relaxed and elective surgery postponed. Facilities may need to be reshaped or new ones (such as influenza clinics) established. Operational plans must be available. Hospital infection control should be based on the transmission characteristics of the virus and should include isolation of patients, the establishment of cohort patient groups, limiting social visits, physical separation of patients and stringent hand hygiene. Patients must practise respiratory hygiene and wear masks in common areas, though this may be difficult to enforce for children.

Session 5: Regional and country preparedness

Marja Esveld, (Dutch National Institute for Public Health and the Environment – RIVM) described the Dutch approach to pandemic planning as being the development of generic emergency plans that build on existing resources. The emergency committee translated the national plan into a local emergency plan for each of 24 safety regions. To estimate the impact of a pandemic on resources, the numbers of cases, hospitalizations and deaths were calculated based on a nine-week pandemic wave with no interventions. Progress indicators for health facilities included the possibility of postponing care, the availability of surge capacity, admission and triage criteria, and the use of other facilities such as home care. Management criteria included admission procedures, familiarization of the health services with the concept of new infrastructure, such as influenza clinics, diagnostic routing, procedures for antiviral drugs and vaccines, staffing (vaccinate if pandemic vaccine available, volunteers) and psychological support. The indicators were used to test the level of knowledge of the people involved, the awareness of the local network and commitment. The results showed that there was good collaboration between disaster management agencies and health services. However, even though all regions had plans, there was room for improvement. Implementation lagged behind, internal contingency plans were not tailored for a prolonged epidemic, the demand for care was underestimated although the absorption capacity was high, triage procedures were unclear, it

was difficult to engage the private health sector, there was under-usage of existing networks for acute care and there was a lack of internal contingency plans for personnel.

Reinhard Kaiser (ECDC) described the assessment of national preparedness plans in six countries using an assessment tool developed by ECDC. The tool is based on chiefly qualitative indicators to assess pandemic planning at national and regional levels, for which case scenarios are also used. The assessments showed that preparedness is moving forward in all six countries but contingency plans were generally missing and (multisectoral) exercises are needed. Country-specific scenarios are required for testing and should include non-health sectors. Although there was awareness of avian influenza, this needs to be translated into a preparedness plan. The next steps in assessment will be additional visits, self-assessment (involving independent national experts) or technical support by phone. The tool is available to all Member States and the speaker requested feedback to enable further refinement. During the discussion, the United Kingdom representative said how useful the assessment had been.

Massimo Ciotti (WHO/EURO, EC) described the progress in pandemic planning in the European Region since March 2005. Forty-six countries now have a pandemic plan compared to 31 in March, including all 25 EU countries (19 published and 6 with a final draft) and 21 non-EU countries (9 published and 12 with a final draft). Compared to March, progress in planning had been made in most components of the plan, although still only 58% of countries had plans for maintenance of essential community services, only 19% had recovery plans and only 10% had tested the plan. Sixteen EU and 6 non-EU countries plan to stockpile antiviral drugs, although the amount was not specified, and 18 EU countries have vaccine procurement plans as compared to 13 non-EU countries. Eastern European countries have paid more attention to non-medical interventions than EU countries. EU countries have paid more attention to surveillance and communication than non-EU countries. The next steps are for all countries to test, publish and implement their plans.

4. Workshops

The working groups on the second and third days discussed preparedness issues relevant to the current situation (H5N1 AI outbreaks in the European Region with possible transmission to humans) through to a pandemic. For summaries and details of the working group sessions, see Annex 2.

5. Main conclusions and recommendations

5.1 Avian influenza

General conclusions

The recent outbreaks of highly pathogenic H5N1 avian influenza in migratory and domestic birds in the European Region are a reason for concern, as the virus will most likely continue to circulate in the future.

Europe has an excellent opportunity to gain experience from the AI outbreaks in Asia, which have shown the unpredictability of the virus, and to put in place effective measures to avoid the

entrenchment of H5N1 in domestic flocks. Some countries implementing prompt actions in Asia have managed to contain the virus in commercial flocks.

One of the most effective ways of containing the virus in poultry is culling; in order to obtain the total cooperation of farmers, full compensation for culled poultry should be guaranteed.

Asia, because of its high population density and the high density of domestic birds, is still considered to be the area of highest risk for the possible emergence of a pandemic virus. However, within the European Region, opportunities for mixing of wild and domestic species, as a consequence of backyard farming, also pose the risk of such an event occurring.

Over 3000 outbreaks of H5N1 avian influenza in poultry have been recorded in Asia and 121 human cases (62 deaths) have been reported. So far, no human cases have been notified in the European Region.

There is substantial evidence that H5N1 is endemic in south-east Asia and that ducks, as silent reservoirs, may play an important role.

Transmission of H5N1 from affected animals to humans is still very sporadic and is most likely due to very close contact with dead or sick animals or their direct environment. Suspected human-to-human transmission has been reported only on rare occasions and WHO maintains pandemic alert phase 3. The risk assessment performed by ECDC has further emphasised the low risk of the H5N1 virus to humans in its current form.

Recommendations

To improve the surveillance and prompt laboratory confirmation of H5N1 avian influenza outbreaks in wild and domestic birds and improve collaboration and data-sharing between veterinary and human surveillance systems.

To improve the collaboration and immediate sharing of relevant information on new outbreaks in birds, the veterinary services should be in permanent contact with a public health service (Ministry of Health, Institute of Public Health). This would allow for timely protection of exposed persons, risk assessment and better coordination of messages.

Positive and negative samples from animal outbreaks and human cases of H5N1 infections need to be shared promptly at the international level with veterinary and human international reference laboratories.

An appropriate level of compensation for farmers and the poultry industry for culled animals should be implemented, to ensure adequate collaboration and timely notification of suspected outbreaks of H5N1.

Clear guidelines for personal protection and use of antiviral drugs for post-exposure treatment need to be made available at operational levels.

Clear guidelines and protocols need to be developed to detect and deal with suspected cases of H5N1 in humans. In addition, appropriate laboratory capacity needs to be developed.

Practical actions and support from the international community are needed for medium- and low-income countries, especially those that become affected.

5.2 Pandemic influenza

Important progress has been made on national preparedness plans, and 46 countries now have written plans compared to 31 at the time of the first preparedness planning workshop in March 2005.

Although more countries now have preparedness plans, some important aspects for appropriate implementation of these plans are missing, including adequate funding as well as the operational testing of these plans.

During the meeting, good progress was made on the exchange of knowledge on non-pharmaceutical interventions, including personal hygiene, appropriate infection control, the use of masks, social distancing, and entry and exit screening at country borders to delay the spread of a possible pandemic viral strain.

Important progress has been made on the exchange of information on considerations for scaling up the health care response at primary, secondary and tertiary levels.

Important progress has been made on the exchange of information on how to prepare the public for an eventual pandemic and the most effective means of communication.

The meeting recognizes that it is crucially important not to confuse the emergence of avian influenza in Europe and the start of a pandemic caused by a novel human influenza strain.

Honesty should guide communications with the general public. Even if the message carries bad news, this is preferable to losing credibility. Communication strategies should be part of preparedness plans and should identify the general public and other specific categories of people as the target of messages.

Some gaps in the overall knowledge of how the influenza virus behaves were identified; these included such issues as the importance of airborne and droplet transmission and the role of children and asymptomatic infection in the transmission of disease.

Interventions such as the use of antiviral drugs during a pandemic are untested and should complement the health system response. Current vaccine production capacity is insufficient for pandemic vaccine needs, and a pandemic vaccine may not be available from the start. Several initiatives at the EU level are aimed at speeding up pandemic vaccine production, such as the public/private partnership for clinical trials and the possibility for EMEA to fast-track approval by means of mock-up pandemic vaccines.

Recommendations at national level

National preparedness plans should aim to follow WHO's guidelines and phases, to ensure standardization and comparability.

Countries should take advantage of existing generic emergency plans when making preparedness plans for pandemic influenza. Where possible, plans should include indicators of implementation down to the peripheral level. Involvement in preparedness at the local level is crucial.

Progress has been made in pandemic preparedness planning but the plans now need to address collaboration with sectors outside the health sector, for example civil protection, military forces and transport services.

Countries should consider establishing emergency centres to assist in health care provision in the event that general practitioners are not able to cope with the increased workload.

National preparedness plans should strike a reasonable financial balance between acquiring antiviral drugs or vaccines and other crucial elements such as surveillance, laboratory capacity, scaling up the health system response and communication tools and messages.

Completed preparedness plans should be shared if not developed in collaboration with other sectors of the government, especially the ministry of finance and the national parliament or congress. These plans should be published in the public domain and made available to local and regional health authorities.

Member States should review their seasonal influenza vaccine policies with the aim of increasing seasonal vaccine uptake and thereby contributing to an increased global production capacity for influenza vaccine, as well establish a permanent infrastructure at national level. Member States are further encouraged to support the EU public/private partnership for clinical vaccine trials and to invest in the production of pandemic mock-up vaccines.

Countries should consider reviewing seasonal influenza surveillance and laboratory capacity, as this is an essential element in monitoring the circulation of influenza virus in the community.

Special attention should be paid to the most vulnerable sectors of society.

Protocols for the prevention and treatment of pandemic influenza need to be developed. Regarding non-pharmaceutical interventions, issues of appropriate home care, hygiene and social distancing measures need to be addressed.

For both pharmaceutical and non-pharmaceutical interventions, special needs may have to be addressed for certain population groups such as children.

Countries should engage in timely and pro-active communication about pandemic influenza issues such as the importance of hygiene and general information about the disease. Relevant information for the health sector can also be prepared in advance and include messages about clinical management, reporting of cases, sampling, general precautions, etc.

Recommendations at international level

The international inter-operability of preparedness plans and communications between countries needs to be addressed. The comparison of plans from EU countries performed by EC and an exercise (“Common ground”) organized for EU countries in November 2005 are important steps in this direction. Non-EU countries could benefit from the experience and design a similar exercise at a later stage.

International bodies are requested to consider preparing a set of guidelines to help countries set standards for the establishment of emergency centres, the usefulness of pneumococcus vaccination, the risk of occupational exposure for general practitioners and health care workers, the usefulness of masks, and the use of mathematical models for planning purposes.

There is a need for international bodies to make a list of priorities for non-pharmaceutical interventions, such as the use of surgical or N95 masks, ranked by evidence of effectiveness. Where there is a lack of evidence, research should be stimulated. EC has requested Member States to share any information from studies addressing the effectiveness of such measures.

International bodies should consider the specific situation of the private sector in east and south-east European countries and identify ways to engage that sector in pandemic preparedness planning.

International bodies should look at mechanisms and opportunities for stimulating the sharing of resources in the face of pandemic threats during phase 4 and 5, for instance the acquisition of stockpiles of antiviral drugs or vaccines to halt or delay the transmission of a novel pandemic virus at source. Both WHO and EC have started such discussions with the Member States.

International bodies should consider developing training modules for spokespersons and should develop a network of country spokespersons in order to harmonize communication messages. It is important to designate a trusted spokesperson, whether this is the chief medical officer, chief epidemiologist or government official. The EU exercise "Common ground" will test international communication in a pandemic situation.

International bodies are requested to provide additional training modules to address the strengthening of surveillance systems, laboratory capacity and other training as identified at country level.

International bodies are requested to improve and/or provide guidance on developing epidemic intelligence activities allowing the detection of rumours. Subregional networks and early warning systems in the appropriate language should be encouraged.

International bodies are requested to prepare guidelines for the complete epidemiological investigation of the pandemic virus as soon as possible after it emerges in Europe.

International bodies are requested by the Asian Republics to look into the possibility of establishing a subregional reference centre for human influenza.

International bodies are requested to continue to assist Member States in assessing their national influenza preparedness plans.

The meeting recommends that the international community, including bilateral and multilateral organizations, should mobilize financial resources to support short-term measures, e.g. compensation to farmers and purchase of antiviral drugs and vaccines. The initiative of WHO and EC to promote resource-sharing among the Member States supports this. In addition, resources should be mobilized for capacity-building in epidemiological expertise, surveillance systems and laboratories.

International bodies are preparing for a third technical meeting on pandemic influenza preparedness planning, the main objective of which will be to monitor national preparedness plans and operational aspects. The meeting will be hosted by ECDC in Stockholm.

The meeting recognized the importance and achievements of the partnership between WHO, EC and ECDC and calls for this to continue.

6. Next steps

- 6.1. The workshop report is available online at <http://www.euro.who.int/flu>.
- 6.2. The workshop report will be sent to participants, EU Member States, WHO Member States in the European Region and entities and other WHO regional offices.
- 6.3. The third joint EC/ECDC/WHO workshop on pandemic preparedness will be hosted by ECDC in Stockholm in 2006 and will focus on operationalization of pandemic plans and intercountry collaboration.
- 6.4. The progress made by Member States in pandemic preparedness planning will be reviewed by a questionnaire survey in six months' time. The survey will use essentially the same questionnaire as during the initial assessment. The progress made by Member States in pandemic preparedness planning will be reviewed by a questionnaire survey in six months' time, using indicators for a more detailed assessment of different components of preparedness plans, including contingency plans for scaling up the health system response and non-medical interventions.
- 6.5. Member States that are experiencing difficulty in finalizing plans will be provided with support, including country visits and training.
- 6.6. A review will be made of the lessons learned from the EU-wide exercise to test pandemic early warning and response measures to be held in November 2005.
- 6.7. Ties and collaborative links between EC, ECDC and WHO will be further strengthened.

Annex 1

Programme

Day 1 – Monday, 24 October

- 08:30–09:00 Registration
- 09:00–09:30 Opening
ECDC Zsuzsanna Jakab, EC Fernand Sauer, WHO Marc Danzon, UK
Presidency Gerard Hetherington
- Adoption of agenda, election of chairperson and rapporteurs
(Caroline Brown, Denis Coloumbier, Massimo Ciotti, Bernardus Ganter)
- Session 1: Overview of the pandemic threat and tools for the response**
Chair: Gudjon Magnusson, WHO/EURO
- 09:30–10:00 Update on avian influenza (H5N1) in south-east Asia
(WHO/WPRO, Shigeru Omi)
- 10:00–10:30 Short- and medium-term actions for avian influenza control worldwide
(OIE, Willem Droppers)
- 10:30–11:00 Coffee
(Press conference)
- 11:00–11:15 Risks posed by avian influenza to EU poultry flocks and birds
(EFSA, Maria Pittman)
- 11:15–11:30 Avian influenza: risk assessment and transmission to humans
(ECDC, Angus Nicoll)
- 11:30–12:00 Update of avian influenza outbreaks in the EURO region (WHO/EURO,
Guenaël Rodier)
- 12:00–12:30 Discussion
- 12:30–14:00 Lunch
- Session 2: Vaccines and anti-virals: new developments**
Chair: Fernand Sauer, EC
- 14:00–14:25 Modelling studies on antiviral drugs
(UK, Neil Ferguson)
- 14:25–14:50 Antivirals
(EMA, Eric Pelfrene)

14:50–15:15 Vaccines
(EMA, Patrick Celis)

15:15–15:30 Discussion

15:30–16:00 Coffee

Session 3: Public health challenges

Chair: Zsuzsanna Jakab, ECDC

16:00–16:25 Concessional and grant finances for surveillance and response
(World Bank, Patricio Marquez and Juergen Voegelé)

16:25–16:50 Risk communication during outbreaks and pandemics
(WHO/HQ, Maria Cheng)

16:50–17:15 Expectations from the Public
(UK, Joanne Yarwood)

17:15–17:30 Discussion

Day 2 – Tuesday, 25 October

Session 4: Public health measures

Chair: Gerard Hetherington, United Kingdom Department of Health

09:00–09:20 Operational issue from WHO's Western Pacific Region
(WHO/WPRO, Shigeru Omi)

09:20–09:40 Surveillance demands during a pandemic
ECDC, Angus Nicoll/WHO/EURO Caroline Brown

09:40–10:05 Non-medical interventions
(CDC, David Bell)

10:05–10:30 Infection control during a pandemic.
(WHO/HQ, Keiji Fukuda)

10:30–11:00 Coffee

Session 5: Regional and country preparedness

Chair: Gerard Hetherington, United Kingdom Department of Health

- 11:00–11:20 Impact of a pandemic at the local level and health response: an assessment from the Netherlands
(Netherlands, RIVM, Marja Esveld)
- 11:20–11:40 Assessment of national preparedness plans in six countries
(ECDC, Reinhard Kaiser)
- 11:40–12:00 Inventory of pandemic preparedness in WHO/EURO member states
(WHO/EURO, EC, Massimo Ciotti)
- 12:00–12:20 Discussion
- 12:20–12:30 Introduction to four technical working groups
(WHO/EURO, Bernardus Ganter)
- 12:30–14:00 Lunch
- 14:00–15:30 **Four working groups “operationalization”**
- 15:30–16:00 Coffee
- 16:00–17:30 **Four working groups “communications”**

Day 3 – Wednesday, 26 October

Session 6: Intercountry collaboration and coordination

- 09:00–09:30 **Introduction to working groups by the chairpersons**
- 09:30–10:30 **Three working groups “case scenario”**
- 10:30–11:00 Coffee
- 11:00–12:30 **Three working groups “case scenario”**
- 12:30–14:00 Lunch
- 14:00–15:00 Plenary presentation of meeting conclusions and recommendations
(WHO/EURO, Bernardus Ganter)
- 15:00–16:00 Final comments and closure by the chairs
- 16:00 End of meeting

Annex 2

Working group sessions

On the second day, participants were divided into four working groups in a random fashion but ensuring both east-west and north-south representation. Simultaneous translation in Russian was made available in three groups. Two major topics were discussed: firstly, what are the possible obstacles to make written plans operational in four of the five areas of the WHO pandemic influenza plan set-up, namely planning and coordination, situation assessment and monitoring, prevention and containment, and the health system response. A second session was oriented towards the fifth area of the WHO pandemic plan, namely communications.

On the third day, participants were divided into three working groups based on geographic proximity. Each working group discussed the five main components of pandemic preparedness in relation to two case scenarios. For each component, working group members were asked to identify the challenges to be addressed in order to implement actions required by an increase in the alert level (resources, funding, political commitment, etc.) and areas where guidance from international bodies (WHO/EC/ECDC) would be needed.

The first scenario describes a situation in which pandemic alert phase 4 has been declared by WHO. The second scenario describes a situation in which a pandemic has been declared by WHO (pandemic phase 6).

Case scenario: Moving to alert level 4

Starting about five weeks ago, small clusters of human cases of influenza A/H5 were confirmed in European Union member state A. As a consequence, WHO has raised the pandemic alert level to phase 4. Two days ago, three adults were admitted to a hospital in your country with symptoms that are suspected of being influenza. All three cases may have been in contact with confirmed influenza A/H5N1 cases in a neighbouring country. Your country has extensive trade and travel links with this country.

Case scenario: Moving to alert level 6

In recent weeks, increased and sustained transmission of influenza A/H5 in several of your neighbouring countries has forced WHO to raise the pandemic alert level to phase 6. Your country has been without cases so far, but in the past few days increasing numbers of patients with symptoms suspected of being influenza A/H5N1 have been admitted to hospitals in your area. The population has reacted with thousands of telephone calls to local authorities and health services about risks and recommendations to protect their families and themselves. Immediate action is required to control the situation.

Specific conclusions from working group sessions

Session 1: Operationalization

Participants were divided into four groups and the following issues were discussed:

Coordination and planning

- The finance ministry should be included in pandemic planning, for example for the procurement of antiviral drugs and the conclusion of (pre)purchase agreements for vaccines.
- It is recommended that WHO guidelines on preparedness planning are followed in all countries, in order to have similar structures and areas addressed. This is thought to promote standardization and intercountry collaboration.
- For operationalization and associated resource issues, countries have been made aware of the conference due to be held at WHO headquarters in November 2005.

Surveillance

Recommendations to countries

- There is a need of algorithms to identify which people to take samples and which safety procedures to follow when dealing with the first suspect cases (of influenza A/H5N1).

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Recommendations to European international bodies (WHO/EC/ECDC)

- The establishment of an international task force may result in early detection of the first clusters of cases of infection with the pandemic virus (in phase 4/5). The task force could use the expertise of an EU team and include national experts.
- Clear guidelines need to be developed on the measures to be taken to protect persons exposed to avian influenza. For example, if antiviral prophylaxis is recommended in addition to the use of personal protective equipment, this should be clearly justified.
- Up-to-date control materials and protocols for detection of influenza A/H5N1 need to be distributed to national influenza centres by WHO as soon as possible.
- A protocol needs to be developed that defines which samples to take for serology studies of people exposed to influenza A/H5N1 or other viruses with pandemic potential.

Scaling up the health system response

Recommendations to countries

- Countries should build their preparedness plans for pandemic influenza on existing emergency structures. The approach to pandemic preparedness should attempt to be as generic as possible and include implementation indicators down to the peripheral level.
- General practitioners should be engaged in pandemic influenza preparedness planning. They should be guided to develop contingency plans for their practice and offered protective equipment to prevent them from becoming ill and infecting their families.

- Countries should consider the establishment of emergency centres to assist in health care provision in the event that general practitioners are not able to cope with the increased workload.
- Countries could consider a parallel health service network for pandemic influenza (specific influenza clinics).

Recommendations to European international bodies (WHO/EC/ECDC)

- European international bodies should develop guidelines to assist Member States in establishing emergency centres to cope with the increased health care workload.
- European international bodies should provide guidance on the usefulness of pneumococcus vaccination to reduce influenza-related mortality.
- European international bodies should assess the risk of general practitioners and health care workers becoming infected as a result of professional activities during an influenza pandemic.
- European international bodies should develop an assessment tool, based on the ECDC assessment tool, to assess general practitioners' state of preparedness, including indicators.
- European international bodies should provide advice on the usefulness of masks in preventing the transmission of influenza during a pandemic.
- European international bodies should provide guidance on recommendations for the public about seeking medical care during influenza pandemic situations. This should include case definitions about when to call a general practitioner and what to do for those who fall ill but do not need to seek medical attention.
- European international bodies should consider the specific situation of the private sector in eastern European countries and specific ways of engaging that sector in pandemic preparedness planning.

Non-pharmaceutical interventions

Recommendations to countries

- Countries should prioritize non-pharmaceutical interventions. Criteria for their implementation should be supported with scientific evidence of their effectiveness or with mathematical modelling. The interventions planned should be affordable at the local level.
- A checklist needs to be developed specifying what is expected from each institution (church, school, restaurant, etc.) regarding social distancing measures.
- Recommendations on the use of masks by the general public cannot be based on scientific evidence of their effectiveness in protecting against influenza infections. They should be based on the level of risk in various categories (e.g. ill, not-ill) and come as part of a hygiene package. Masks are especially an option when health resources are limited, provided there is a clear message about the lack of evidence of their effectiveness. Plans also need to cover the disposal of used masks.
- School closures, if considered, should be implemented as soon as the pandemic is declared. Their feasibility and impact on public health should be weighed against the increased risk of spread among children in other social settings. Plans to close schools should specify the duration.

Pharmaceutical interventions

Recommendations to countries

- Stockpiling strategies for antiviral drugs need to take into account available resources, which in turn are linked strongly to political commitment.
- Implementation of pandemic plans at the local level is crucial. Plans for other emergencies can be partially relied on, although a pandemic requires long-term planning. Hospital supplies, and vaccine availability where possible, need to be guaranteed.
- Possible inequities in access to health care and supplies for minority groups during the pandemic need to be addressed.

Session 2: Communications

Recommendations to countries

- There should be a web page to provide state-of-the-art knowledge on the avian influenza/pandemic influenza threat.
- Lessons learned from the recent avian influenza outbreaks show that communication materials should inform the public of the direct threat: people do not want to be informed about the pandemic until it is imminent.
- Communications should be phased to be specific and appropriate for the different pandemic phases.
- Countries should decide if communication includes information on policy decisions.
- Messages to health care workers are important for maintaining capacity during a pandemic.
- Countries should have strategies and messages targeted at minority groups using appropriate means of delivery, since many such groups constitute an important part of the public not reached by printed material or information on the Internet.
- Countries should engage in timely and pro-active communication about pandemic influenza issues.
- The media are part of the communication strategy and not the target of communication.
- Trust in the messenger is important: in some cases, a medical expert may enjoy more trust than a politician and should be the designated spokesperson.
- Most countries have communication plans which are adapted to the local situation. It is stressed that communication needs to have clear messages and should be open, with no secrets.
- Communication on antiviral use requires consensus on the correct usage of Tamiflu. Strains on production capacity, whereby the desired stockpile cannot be obtained, should be communicated to the public.
- Countries should have systems in place to rapidly inform the health sector, such as star-fax systems which can inform all clinics and hospitals in a country in one hour.

Recommendations to European international bodies (WHO/EC/ECDC)

- European international bodies should develop training modules for spokespersons, in particular for small countries which do not have a media officer in their national surveillance centre.
- European international bodies should develop a network of country spokespersons in order to harmonize communication messages in the Region.
- Influenza pandemic communication plans should include standard operating procedures for informing other Member States about communication strategies and messages.
- European international bodies should make an inventory of effective communication approaches for pandemic influenza.
- European international bodies should provide guidance on developing epidemic intelligence activities that allow for the detection of rumours.

Session 3: Intercountry collaboration and coordination

Group 1: EU countries

Both phase 4 and 6 scenarios were discussed for the five components of preparedness planning: planning and coordination, situation monitoring and assessment and prevention and containment, the health system response, and communications.

Planning and coordination

Recommendations to European international bodies (WHO/EC/ECDC)

- The recently adopted International Health Regulations incorporate lessons learned from SARS but it is not clear whether they already function as a tool or as a stimulus for further discussion. EC should clarify.
- Difficulties in contact tracing were highlighted in the SARS outbreak, for example not knowing the nationalities of persons on flights and the need for quick follow-up versus confidentiality. Clear international rules are required.
- The smallpox exercise exposed a flaw in the Early Warning and Response System (EWRS), namely the large volume of messages. ECDC could act as a filter and assist national authorities in this regard.
- Technical advice from WHO is being challenged by ECDC, possibly due to the different demands inherent in guidelines for Europe as opposed to the global level.
- The roles of WHO and ECDC in the event of an outbreak need to be clarified.

Situation monitoring and assessment

Recommendations to countries

- Structures need to be in place nationally to inform all key persons, down to the local level.
- Sentinel surveillance and surveillance of contacts need to be enhanced in alert phase 4.
- Contingency plans and infection control strategies need to be developed for all alert phases.

Recommendations to European international bodies (WHO/EC/ECDC)

- The exact mechanism used by WHO to alert governments to a new phase needs to be made known.
- Algorithms for case identification need to be reassessed and distributed by ECDC.
- Continuous updates from ECDC are needed on risk assessment regarding transmission, morbidity and mortality.

Prevention and containment

Recommendations to countries

- For infection control purposes and protection of health care workers, contacts of hospital patients need to be identified.
- Non-essential travel to the affected country should be postponed.
- Procedures need to be in place in the event that the public already knows about the suspect cases: should people who have been to the affected country visit a doctor? Should there be home-visiting groups?
- Laboratory confirmation plays a role in containment: samples from suspect cases should be subjected to specific (influenza A/H5N1) and wide differential diagnosis. Influenza A/H5N1 tests need to be validated and up-to-date reagents made available to avoid the risk of false negatives (WHO task).

Recommendations to European international bodies (WHO/EC/ECDC)

- Recommendations are needed on seasonal vaccination of contacts of cases.

Health system response

Recommendations to countries

- Dissemination of information to health services needs to be quicker and procedures need to be developed.
- Infection control procedures are well organized in hospitals but general practitioners are less well informed. Countries must decide if general practitioners should take samples or whether this should be done in a hospital where infection control procedures are in place.
- Baseline information on influenza-like illness, acute respiratory infections and hospitalizations due to seasonal influenza are needed.
- Surveillance should be enhanced in phase 4.
- The logistics of distributing antiviral drugs from a central depot to local distribution points needs to be addressed.
- Vaccination of health care workers with a current H5N1 strain vaccine is an option considered by some countries.

Recommendations to European international bodies (WHO/EC/ECDC)

- Guidelines for enhanced surveillance should be provided by ECDC/WHO.

Communication

Recommendations to countries

- All sectors should receive information on the approach that will be taken in the event that a phase escalation is declared *before* it actually happens.
- Pre-prepared messages and procedures should be available.
- There should be an offer to brief a trusted spokesperson, chief medical officer, minister, etc.
- A public information film should be released upon declaration of the pandemic.
- Be transparent: give the media concrete information, eg. *when* confirmation will be obtained, and describe plans put in place.
- Overriding messages should be sent to *all* sectors: increased alertness and hygiene, social distance, hygienic coughing – wherever we are.
- Specific messages should be sent to:
 - say that countries/WHO/ECDC are working together;
 - say whether cases have been confirmed or not and whether there are cases in other countries;
 - tell people where to go if they have *specific* symptoms;
 - confirm which country has cases, recommend sensible precautions such as postponing non-necessary travel and tell people what to do if they have been to the affected country and have symptoms.
- Ensure that contingency plans are on standby, ready to be taken “off the shelf”.
- Perform a telephone poll to obtain feedback on the public’s reaction to the situation.
- Inform surveillance and health care systems to be on standby and provide a hotline. Primary care and general practitioners should increase hygiene measures and be prepared to isolate suspected cases.
- Messages across borders should be similar but not identical, with differences appropriate for each country.
- Messages on border policies will be needed.

Recommendations to European international bodies (WHO/EC/ECDC)

- For international communiqués, a lead department or team should head communication and cross-government meetings should coordinate messages.
- WHO should take care not to surprise countries with messages.

Group 2: Stability Pact countries

The phase 4 scenario was discussed for the components of planning and coordination, situation monitoring and assessment, and prevention and containment.

Planning and coordination

Conclusions/recommendations to countries

- Every country should have a coordination team at both national and local levels (this is the case for most of the Stability Pact countries).
- There is multisectoral coordination between the Ministry of Health and Ministry of Emergencies.
- Communication facilities are sufficient for the relatively small countries in this group to physically meet rapidly with all the key players.
- Some professional relationships are already in place between some countries to facilitate cross-border coordination.
- Fear and media pressure are perceived as being likely to interfere with coordination of the plan/process.
- Agriculture and health sectors communicate but have their own separate system (e.g. Bosnia and Herzegovina).
- Some political elements may interfere with coordination.
- Some sectors (e.g. finance, trade, tourism) are not always, or only rarely, part of the coordination committee.
- Contact at international level (e.g. with WHO) for obtaining access to regional data, technical support, etc., is not always perceived as an immediate and important issue.
- The WHO Regional Office for Europe's Centralized Information System for Infectious Diseases (CISID) is used to share data but is currently not working properly.

Situation monitoring and assessment

- Laboratory procedures are in place in all countries up to WHO reference laboratory level, even if national diagnostic capacity is not available.
- An outbreak response unit is available in different formats but present in all countries.
- A surveillance system (various formats) is present in all countries based on routine influenza surveillance combined with an early warning system.
- A system exists to rapidly contact all health care workers (including general practitioners) to activate enhanced surveillance.

Prevention and containment

- All countries would rapidly provide infection control information to all health care workers and ensure proper isolation of suspected cases.
- Contact tracing is perceived to be extremely difficult (definition of "contact", problem of infectious asymptomatic individuals).
- Limitations on use of contact tracing in a phase 4 scenario or pandemic are aggregated data, sentinel system, case definition too sensitive (influenza-like illness), clinical surveillance only (no virological surveillance).

- Difficulties were encountered in discriminating between the responses to phase 4 and phase 6.
- Different views/policy regarding the use of antiviral drugs (post-exposure prophylaxis) were expressed in the phase 4 scenario.

Group 3: Countries in the Commonwealth of Independent States (CIS)

The main point discussed was laboratory capacity

- Laboratory isolation facilities need to be upgraded and are often present in capital cities only.
- Transport of samples internally and externally remains a problem. This includes air transportation to laboratories in other countries.
- Laboratory capacity in the region would be strengthened by designating a regional influenza reference laboratory in one of the central Asian republics.

Annex 3

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