INFLUENZA PANDEMIC PREPAREDNESS

IN IRELAND

JOINT ASSESSMENT REPORT

2007

Pandemic Influenza Preparedness

Joint Self-Assessment Report

Ireland

Travel to: Ireland

Dates: 28th February to 2 March 2007

Purpose: Influenza Preparedness Assessment Visit

Background*: Series of visits 2005-7 to all European Union Countries

Summary

Purpose of mission – Specific Objectives

1. To support national Irish authorities in jointly evaluating and improving the status of pandemic influenza preparedness in Ireland, including the interoperability of its plans with other countries in Europe
2. To determine the current level of influenza preparedness

In particular

3. To identify strengths of pandemic influenza preparedness and areas where further work is needed
4. To identify specific steps for improvement and areas where support from the European Centre for Disease Prevention and Control (ECDC) and other organizations may be requested.

The end product is an agreed recommended action list for improvement and a follow-up programme which also clarifies the further support needed from the ECDC.

Notable Strengths

1. An important development in the past few years has been the drawing together of the primary and secondary health care services in Ireland into a single unified Health Service Executive rather than a disparate number of health boards. While like all re-organisations this produces the stresses of a change process and there are many details to be worked out it is essentially a positive move for health protection as there is an easier scope for rapid central reporting and for command and control mechanisms.

2. There is a very high level of ministerial commitment to comprehensive and in-depth pandemic preparedness, which has already been translated into significant commitment of resources.

3. There is a strong and energetic central planning group which has been putting major effort into planning and preparedness. This has produced a revised National Pandemic Influenza Plan (January 2007) supported by comprehensive Advice of an Expert Group and Supplements, January 2007.

4. The current National Pandemic Influenza Plan touches on virtually all of the essential planning elements laid out by the EU and WHO.

5. The Department of Health and Children has made a clear presumptive policy commitment towards meaningful acquisitions of pandemic vaccine and has secured oseltamivir for 25% and zanamivir for 20% of the population.

6. There is a very close working relationship between the Department of Health and Children and the Department of Agriculture and Food, and between public health and animal health specialists.

7. The publication of *Business Continuity Planning for an Influenza Pandemic* by the Department for Enterprise, Trade and Employment is an excellent contribution to the broader planning agenda.

8. The agreement reached through Partnership on co-operation with redeployment and suspension of Industrial Relations actions for the duration of a pandemic is an example of best practice.

Recommendations

(note numbering is not sequential because not all the topics covered have a recommendation)

1 Seasonal Influenza Surveillance

1.1 ECDC to exchange for comment and information the seasonal influenza surveillance objectives it has developed internally.

1.2 The authorities should look into ways of making the primary care surveillance even more robust so that it would be more likely to be sustainable in a pandemic Phase 6. ECDC to advise on how this might be achieved.

1.3. The authorities to consider the feasibility of extending sentinel seasonal influenza surveillance to include automated collection of data on patients with influenza from hospitals (based on syndromes and/or multiple ICD codes).

1.4. The authorities to consider legal and other means as to how timely mortality surveillance can be facilitated during the pandemic. They should liaise with the Danish-led EU initiative on this if that is funded.

1.5 The authorities should consider adding vaccination and travel history to the sentinel surveillance system.

2. Seasonal influenza vaccination programmes

Acknowledging the difficulties in identifying high risk groups currently in Ireland, efforts should be made to improve mechanisms for collection of data on vaccine uptake in such groups. This information would allow Ireland to better target and refine their immunisation strategies.

4. Pandemic Planning and Coordination

The relevant authorities within health and beyond should consider the advice of the Expert Group and should draw up and implement plans based on this guidance. Given the proximity to the UK the authorities and the Expert Group should look at the *Pandemic Presumptions*[1] published by the UK Government in March 2007 and draw on some of the thinking on public health measures that will shortly be coming to Member States.

[1] http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_073168

5. Avian influenza issues

The risks to humans from culling LPAI AI outbreaks should be assessed within the hierarchy of risks. This should be done by linking with ECDC which is doing a short risk assessment on this and the other countries having discussions on this aspect (Denmark, Netherlands and the UK).

6. Pandemic Surveillance, Situation Monitoring and Assessment

6.1 ECDC should share its initial paper on Surveillance in a Pandemic with the authorities in Ireland.

6.2 Ireland should progress its work on developing these situation monitoring systems and reports. The authorities might usefully look at the situation monitoring documents developed by the Civil Contingencies Secretariat in the UK.

7. National Influenza Centre / National Virus Reference Laboratory

This is working exceptionally well and is functioning as the 'server' for a strong national network of virological expertise. One detail that was not clear was the need for a clear policy on trigger points for the lab to switch from specific diagnostic work to global surveillance in a pandemic (i.e. when to stop testing all patients and switch to sampling). It was notable that the Centre had a single member of consultant medical staff working with a strong, able and enthusiastic team under him. This arrangement of a single consultant cannot be regarded as safe for a national virological service and consideration now needs to be given to bringing the senior staff numbers more in line with other countries and to more succession planning for staff in the NIC. The assessment team recognised that the resourcing of pandemic preparedness has to be managed within overall staffing resources and with regard to other competing demands and has to be based on making the best use of existing resources, including through improved work practices and skill mix where appropriate.

8. Outbreak investigation capacity, general and during a pandemic

8.1 The external team understands that all parties accept the need for an out of hours service. Outbreak capacity should be considered in any review of public health capacity (see item 17).

8.2 The assessment team recognises that the resourcing of pandemic preparedness has to be managed within overall staffing resources and with regard to other competing demands and has to be based on making the best use of existing resources, including through improved work practices and skill mix where appropriate.

10. Antivirals and other essential supplies

10.1 ECDC to finalise and send the revised versions of its background documents on antiviral resistance and antivirals as these become available. The authorities should continue to work to develop practical plans for distribution and exchange these with other countries. ECDC should consider nominating this as a topic at the next EU Pandemic Preparedness Workshop in Luxembourg in September.

10.2 In line with the thinking of the Expert Group and the experience of the UK during its pandemic exercise the topic of how supplies of antibiotics would be sustained in a pandemic should be considered by the authorities.

11. Non-Pharmacological Public Health Measures

11.1 The Interdepartmental Committee on Public Health Emergency Planning should consider the recommendations of the Expert Group and make adoptions as policy as it sees fit.

11.2 ECDC should finalise its menu on public health measures and distribute that to assist in such discussions.

12. Pandemic Vaccines

Work should continue on refining detailed plans as to how the pandemic vaccine will be prioritised and delivered.

13. Simulation Exercises

13.1 Ireland should consider having one or two large scale exercises with carefully developed objectives and drawing on international experience. These would need to be resourced so that their development did not exhaust those they are meant to be evaluating and supporting.

13.2 The ‘acute’ role of the Expert Group should be tested for feasibility and utility during these exercises. The relevant authorities should explore how other Advisory Groups e.g. that of the UK function in peace time and war time. Also it should be explored if there could be any observer status at exercises in other jurisdictions.

14. Maintenance of Basic Services

14.1 The authorities should examine how best to integrate preparedness across the non-health sectors at the national level.

14.2 Groups like the Interdepartmental Committee should now work through the relevant issues. ECDC to supply its list of multisectoral planning issues which is available on the Internet at
http://www.ecdc.eu.int/pdf/Multisectoral%20planning%20table.pdf

16. Specific Innovations

ECDC should highlight the Business Continuity guidance on its web-site and Ireland might consider drawing it to people's attention at the 4th EU workshop in September and in a document that ECDC is considering preparing for the Health Council during the Portuguese Presidency in December 2007.

17. Local Public Health Manpower

17.1 It should be considered whether the public health manpower is adequate at the local level for supporting a response to pandemic influenza. The assessment team recognises that the resourcing of pandemic preparedness has to be managed within overall staffing resources and with regard to other competing demands and has to be based on making the best use of existing resources, including through improved work practices and skill mix where appropriate.

17.2 The external team understands that all parties accept the need for an out of hours service and notes that the issue is being dealt with through the normal industrial relations machinery.

18. Hospital and Local Preparedness

The Waterford plan and the other local plans should be tested out by local exercises. Lessons from these exercises should be shared across the health services. It is recommended that a mechanism be devised for the HSE authorities to then systematically audit local preparedness perhaps using or adapting ECDC's local acid tests. ECDC should suggest that the Waterford plan be shown on a European stage.

19. Communications

19.1 The Communications plan should be implemented and the planned staffing requirements should be attended to. The assessment team recognises that the resourcing of pandemic preparedness has to be managed within overall staffing resources and with regard to other competing demands and has to be based on making the best use of existing resources, including through improved work practices and skill mix where appropriate.

19.2 ECDC should consider how it can assist on non-English language leaflets. The resources needed to enact the further development of the plan should be identified and consideration given to how it would be actioned during a pandemic. Consideration needs to be given as to how a cross-government approach would be managed and delivered during a pandemic.

19.3 The telephone hotline should be formally tested to ensure that it has both the capacity and robustness to function efficiently in the pandemic situation, including for example how the required man-power and logistics for this will be managed, particularly given staff absenteeism etc.

20. Specific Capacity Issues

20.1 The authorities should plan for a continued focus on pandemic planning over the next two to three years focussing on inter-sectoral collaboration and detailed planning at the local level.

20.2 Given that the need to work intensively on influenza continues, consideration should be given to how the teams working at national level in HSE (including HPSC) and DoHC can be reinforced so that they can sustain this work and that other priorities (HCAI, STIs, CBRN etc) are not neglected as a consequence. The authorities should also consider how they can further develop the modelling capacity needed for emergency planning in Ireland with particular emphasis on operational monitoring. The assessment team recognises that the resourcing of pandemic preparedness has to be managed within overall staffing resources and with regard to other competing demands and has to be based on making the best use of existing resources, including through improved work practices and skill mix where appropriate.

21. Ethical Issues

The authorities should consider how they will develop ethical advice that is fit for purpose both in the run up to and during the considerable stress of a pandemic. ECDC to direct the authorities to those in other countries (e.g. UK and Finland) that had developed such mechanisms and other countries that are considering this (e.g. Austria and Spain).

22. Legal Issues

The review of infectious disease regulations should be progressed within the DoHC as a matter of urgency.

Requests/issues for input from ECDC

1. ECDC to exchange for comment and information the seasonal influenza surveillance objectives it has developed internally (1.1).

2. The authorities should look into ways of making the primary care surveillance even more robust so that it would be more likely to be sustainable in a pandemic Phase 6. ECDC to advise on how this might be achieved.(1.2)

3. ECDC should share its initial paper on Surveillance in a Pandemic with the authorities in Ireland. (6.1)

4. ECDC to finalise and send the revised versions of its background documents on antiviral resistance and antivirals as these become available. The authorities should continue to work to develop practical plans for distribution and exchange these with other countries. ECDC should consider nominating this as a topic at the next EU Pandemic Preparedness Workshop in Luxembourg in September. (10.1)

5. ECDC should finalise its menu on public health measures and distribute that to assist in such discussions.(11.2)

6. ECDC to supply its list of multisectoral planning issues which is available on the Internet at http://www.ecdc.eu.int/pdf/Multi-sectoral%20planning%20table.pdf (14.2)

7. ECDC should highlight the Business Continuity guidance on its web-site and Ireland might consider drawing it to people's attention at the 4th EU workshop in September and in a document that ECDC is considering preparing for the Health Council during the Portuguese Presidency in December 2007. (17)

8. ECDC should suggest that the Waterford plan be shown on a European stage.(18)

9. ECDC should consider how it can assist on non-English language leaflets (19.2)

10. ECDC to direct the authorities to those in other countries (e.g. UK and Finland) that had developed such mechanisms and other countries that are considering this (e.g. Austria and Spain). (21)

Background

Evaluating the readiness of the European Union and its Member States for influenza are integral components of the overall process of improving overall pandemic preparedness in Europe. A starting point for improving pandemic preparedness was a workshop on preparedness planning organized jointly by the European Commission (EC) and WHO EURO in Luxembourg, March 2005. A second workshop convened by WHO took place in Copenhagen in October 2005 after the activation of ECDC (in May 2005) which then became the third partner in the process and a third workshop was convened by ECDC in Uppsala, Sweden in May 2006. Between May and October 2005 a process for countries' assessing their pandemic preparedness was developed by ECDC with the other two partners. Key to which was an assessment tool which then began to be used by Member States and the partners.[2] In 2005, country visits were conducted by the ECDC~Commission~WHO~EURO partnership in a number of EU and non-EU European countries with a view to completing all countries by the end of 2007. The assessment tool derives from WHO documents and an EU Communication on pandemic planning and has developed steadily over time based on experience and events.[3,4,5] For example the approach has become more joint between an internal and external members of an Assessment team and there has been steadily increasing emphasis on interoperability, non-health sector contributions, more emphasis on dealing with seasonal influenza and since the autumn of 2005 the response to highly pathogenic avian influenza (HPAI), specifically influenza A/H5N1.[6]

The third European workshop in Uppsala in May 2006 reviewed progress since March 2005 and concluded that although major progress had been achieved a number of ongoing needs remained which included:

- political commitment for preparedness planning,
- increased resources (human and financial),
- more research,
- the resolution of complex legal and ethical issues,
- need to develop common solutions and cross-border co-operation (interoperability)
- use of antivirals,
- development of preparedness in the primary care and hospital sectors,
- preparation for avian influenza.

In 2006, further assessment visits took place in Belgium, France, Germany, Italy, Lithuania, Portugal, Slovakia, Spain, Latvia and Austria. Visits are continuing in 2007, with Ireland being the first.

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[2] ECDC Pandemic Influenza – Assessment Tool
http://www.ecdc.eu.int/Health_topics/Pandemic_Influenza/Assessment_tool.html
[3] WHO Global Influenza Preparedness Plan 2005
http://www.who.int/csr/resources/publications/influenza/GIP_2005_5Eweb.pdf
[4] WHO Checklist for Pandemic Preparedness Planning 2005
http://www.who.int/csr/resources/publications/influenza/FluCheck6web.pdf
[5] Assessment tool Version September 2006
http://www.ecdc.eu.int/documents/pdf/AssessmentToolPandemicInfluenzaPreparedness_13_9_2006.pdf
[6] WHO Responding to the avian influenza pandemic threat: Recommended Strategic Actions 2005
http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_05_8-EN.pdf

Regional and focused meetings were undertaken partially to help prepare a *Status Report* [7] on pandemic preparedness requested by Commissioner Kyprianou and also to focus on the issues of Communications, Interoperability, Use of Antivirals and Hospital Preparedness.

The report identified many policy options but especially focused on the need to work in the coming two to three years in the following five areas

- Integrated planning across governments.
- Making plans operational at the local level.
- Interoperability at the national and regional level.
- Stepping up prevention efforts against seasonal influenza
- Extending influenza research.

Organization of the Visit and Application of the Assessment Tool (Questionnaire)

The approach of ECDC was through the Department of Health and Children in Dublin who organised the time table of the visit. Prior to the visit a detailed questionnaire was kindly completed by a number of key informants in Ireland. The completed questionnaire forms Appendix Five to this report. From 28th February to 2nd March 2007 a four-person group visited Dublin for an intense (3 day) joint assessment joining a group from the Department of Health and Children (DoHC) and the Health Service Executive (HSE) forming an overall joint Assessment Team. This team worked with DoHC and HSE staff and persons from other relevant Government departments to achieve the four specific objectives detailed above. Details of the schedule of the visit, the persons met and the background documentation are contained in Appendices One, Three and Four respectively. The many detailed presentations and the impressive background documentation is now archived in ECDC.

The external component of the Assessment Team consisted of four ECDC Staff: Professor Angus Nicoll (team leader), Dr. Peter Kreidl, Mr John O'Toole and Mr. Howard Needham. The internal team members were Ms Teresa Cody, Dr Derval Igoe, Dr. Eibhlín Connolly and Mr Gavin Maguire. Professor Nicoll and Ms Cody were the joint coordinators of the Assessment Mission and this Report.

The Assessment Team met with a number of individuals from a range of institutions over the three days of the visit. This included representatives from the Department of Health and Children and other Departments, as well as the Health Service Executive, and other national agencies (Appendix Three).

An impressive number of presentations were made to the team and strong list of documents were supplied (Appendix Four).

The results of the Assessment are based to varying degrees on the completed Assessment Tool / Questionnaire, the presentations and background documentation, systematic questions, site visits and less structured discussions held within the limited time frame available with the

[7] **European Centre for Disease Prevention and Control. Pandemic Influenza Preparedness in the European Union Status Report as of Autumn 2006 ECDC January 2007** http://www.ecdc.eu.int/pdf/Pandemic_preparedness.pdf

persons listed in Appendix Three. Even with all the work undertaken the Assessment can only give a partial view of pandemic preparedness in Ireland. In particular like all these assessments the view had to focus on the national picture and a snap shot of one more local perspective. Also preparedness is rapidly improving in Ireland and so what was the position at the end of February 2007 will in a short while be a dated view. Hence the Team would not wish the Assessment to be taken as a fixed position and would wish to emphasise that the most important objectives were:

3. *To identify strengths of pandemic influenza preparedness and areas where further work is needed*
4. *To identify specific steps for improvement and areas where support from the European Centre for Disease Prevention and Control (ECDC) and other organizations may be requested.*

These objectives were achieved.

Finally the external team members wished it be recorded that they are very grateful for the time that the many people they met generously provided and the care and attention afforded them by their Irish hosts in what was an intensive visit for all concerned taking place at a busy time.

Key indicators

Twenty indicators have been defined as **key indicators** because they are considered especially important for national preparedness. The indicators may be used as a quick checklist for the preparedness status and reported in a table that can be updated by the national authorities.

	Goal	**KEY INDICATOR**	**CURRENT STATUS**
	SEASONAL INFLUENZA AND VIROLOGY		**Y = yes / N = no**
1.	**An influenza surveillance system in place collecting epidemiological and virological information**	**1. Surveillance data published during the influenza season for:** **(a) National Level?** **(b) Administrative regional level?**	 **Y** **Y** **Reports available at http://www.ndsc.ie/hpsc/A-Z/Respiratory/Influenza/Publications/20062007Season/**

2.	**National laboratory capacity able to provide timely, high quality, validated routine and diagnostic influenza laboratory support with committed budget to facilitate this work**	**2. National laboratory capacity to perform:** **(a) Virus isolation?** **(b) Influenza typing?** **(c) Influenza subtyping?**	**Y** **Y** **Y Partial subtyping is carried out in NVRL. Full characterisation is done in Millhill, UK.**
3.	**National annual seasonal influenza vaccination programme in place achieving >75% uptake in over 65s and increasing uptake in occupational and clinical risk groups**	**3. Vaccine uptake figures published annually?**	**National annual uptake in persons aged >65 available:** **Y** **If yes:** **year: 2005/6** **%: 63%**
	PANDEMIC PLANNING AND COORDINATION		
4.	**National planning committee/structure in place that has a coordinating role for pandemic preparedness**	**4. List of participating bodies/members?**	**Y** **If yes:** **Cross-sectoral: N**
5.	**National pandemic plan consistent with international (WHO and EU) guidance, publicly available**	**5. National health sector influenza plan?**	**Y** **If yes:** **Last month/year updated: 2007_____**
6.	**National command and control structure in place for managing an influenza pandemic**	**6. National command and control structure?**	**Health services command and control structure Y** **Cross-sectoral command and control structure Y**
7.	**National contingency plan for maintenance of non-health essential services, such as power supply, food distribution etc, publicly available**	**7. National contingency plan for maintenance of non-health essential services?**	**N** **Last month/year updated: _____**

	SITUATION MONITORING AND ASSESSMENT		
8.	**Ability to detect initial cases, and to monitor the spread and impact during the different phases of a pandemic**	**8. Pandemic surveillance and information plan?**	**Y** **Expert advice on surveillance, detection and situation monitoring was published on 15th January 2007. This is currently out for consultation. Available at http://www.ndsc.ie/hpsc/A-Z/EmergencyPlanning/AvianPandemicInfluenza/Guidance/PandemicInfluenzaPreparednessforIreland**
9.	**Ability to investigate initial cases of a pandemic influenza strain**	**9. Outbreak investigation capacity?**	**Y**
	PREVENTION, MITIGATION AND TREATMENT (includes health system response)		
10.	**Public education materials as part of a national strategy on personal non-pharmacological public health measures (personal hygiene, self isolation)**	**10. Public education materials available?**	**Material on seasonal influenza published Y** **Material on pandemic influenza ready N**
11.	**National strategy for community non-pharmacological public health measures (travel, mass gatherings, school closures etc)**	**11. Group established to develop such a strategy?**	**Y** **If yes:** **month/year of last meeting:** **Expert Group last met in February 2007.** **Inter-Departmental Committee last met in January 2007.**

12.	**National antiviral strategy developed, including plans for procurement, stockpile and delivery to patients**	**12. National antiviral strategy developed?**	**Y** **If yes:** **Last month/year updated: January 2007**
13.	**National pandemic vaccination strategy developed, including procurement, distribution and targeting of pandemic vaccines**	**13. National pandemic vaccination strategy developed?**	**Y** **If yes:** **Last month/year updated: January 2007**
	REGIONAL AND LOCAL ARRANGEMENTS		
14.	**Regional/local planning and coordination structure for pandemic preparedness in place**	**14 Regional/local planning and coordination structure?**	**Y** **If yes:** **Cross-sectoral: N**
15.	**Regional/local health services able to cope with an influenza pandemic and continue to provide other essential health services**	**15 Planning document issued to local health services which includes the nationally agreed parameters for which local services should plan (expected range of cases and percentage of staff off sick)?**	**Y** **If yes:** **Last month/year updated: January 2007**
	COMMUNICATIONS		
16.	**National communication strategy developed and published**	**16 National communication strategy?**	**Y** **If yes:** **Last month/year updated: January 2007**
	INTERNATIONAL INTEROPERABILITY		
17.	**Potential impact of measures for neighbouring countries and the EU discussed**	**17. Joint work undertaken with neighbouring country/s on mutually relevant policy areas?**	**Y** **If yes:** **Last month/year of joint work: February 2007.**
	PANDEMIC EXERCISES		

18.	**Pandemic preparedness regularly and systematically tested at all levels and across all sectors, including lessons learnt, report published and fed back into planning.**	**18 National level health sector exercise?**	**Y** **If yes:** **Last month/year of exercise: November 2005.**
	AVIAN INFLUENZA		
19.	**National system in place for influenza surveillance in animals (including wild birds) which meets EU requirements**	**19 National system for influenza surveillance in animals?**	**Y**
20.	**National capacity for managing an outbreak of HPAI with human health implications, developed in collaboration between health and veterinary authorities**	**20. Joint health and veterinary plan or complementary plans?**	**Y** **If yes:** **Last month/year updated: January 2007**

General Information

Ireland is located in Western Europe and has a land border with Northern Ireland which is part of the United Kingdom of Great Britain and Northern Ireland. It is one of the smallest countries in Europe with a population of 4.23m.

Ireland is a parliamentary democracy. The national parliament is called the Oireachtas and consists of the President and two houses. These are the Dáil (The House of Representatives) and the Seanad (the Senate). The powers of these two bodies derive from the Constitution of Ireland and law. The Constitution of Ireland is Bunreacht na hÉireann, the basic law of the State. Adopted by referendum in 1937 it defines Ireland as a sovereign, independent and democratic state.

The Irish Government consists of not less than seven and not more than fifteen members. The Head of the Government is the Taoiseach (Prime Minister), who is appointed by the President on the nomination of the Dáil. Departments of State are assigned to members of the Government, with a Minister occasionally being responsible for more than one department.

Health System

The **Health Service Reform Programme** was initiated in 2003. The aim of the reform programme is to provide the best possible service, in terms of quality and effectiveness, to patients within the resources made available by the Government and to have equity as a core

value in the health service. The Health Act 2004 provides the statutory framework for the reform of the management structures in the health service.

Structure and Responsibilities

The Department (Ministry) of Health and Children is responsible for supporting the Minister and the overall organisational, legislative, policy and financial accountability for the health sector.

The Health Service Executive (HSE), established in January 2005, is a unitary system, a single organisation delivering health services nationwide. This unitary system allows for clear accountability structures and modern financial management systems to allow key decision makers in the health service to link activities with budgets and thus to evaluate the effectiveness of their decisions.

The HSE manages services through a structure designed to put patients and clients at the centre of the organisation. It has three clearly defined interdependent areas - Health and Personal Social Services, Support Services and Reform & Innovation. All of the services provided by the HSE to the public are delivered through four Administrative Areas - Dublin Mid- Leinster, Dublin North-East, West, and South.

Health and Personal Social Services are divided into three areas:

- Population Health promotes and protects the health of the entire population
- Primary, Community and Continuing Care (PCCC) delivers care in the community
- National Hospitals Office (NHO) provides acute hospital and ambulance services

Support Services enable the organisation to function efficiently and cost effectively - Human Resources, Finance, Information and Communications Technology, Estates and Procurement.

The Office of the CEO has a number of key corporate functions to support the HSE as a whole: Board Affairs, Parliamentary Affairs, Quality and Risk Management , Consumer Affairs , National Communications Unit , Regional Health Offices and Corporate Pharmaceutical Unit. Reform and Innovation drives the HSE's strategic and corporate planning processes.

The Health Act 2007 established **The Health Information and Quality Assurance body (HIQA) and The Social Service Inspectorate** on a statutory basis. HIQA will set standards on safety and quality for all services provided by the HSE and service providers on behalf of the HSE, and private nursing homes. It will also provide an independent review of quality and performance, and its analysis will inform policy development within the Department. It will monitor compliance with the standards it sets and advise the Minister and the HSE on the level of compliance. It will also undertake health technology assessments including drugs and medical devices and will evaluate information available on services provided by the HSE and other service providers and on the health and welfare of the population, identify information deficiencies and advise the DoHC and the HSE accordingly.

Legislation

Following the enactment of the Health Act, 2004, the Department has made major advances in its legislative programme. Modernising and strengthening the regulatory framework underpinning service delivery and patient care has been prioritised. **The Health Act 2007** established HIQA on a statutory basis. **The Health and Social Care Professionals Act 2005** provides for the statutory registration of a range of allied health professionals and will underpin the delivery of safe and high quality services to members of the public.

Legislation enabling **Nurse Prescribing** has been enacted and Regulations were signed into effect in May 2007 in order to make its introduction a reality in 2007 resulting in better and more timely access to medicines by patients.

The Medical Practitioners Act 2007 provides for an enhanced and modern system of regulation of the medical profession in Ireland.

The Pharmacy Act 2007 provides a complete overhaul of regulation of pharmacy for the first time in 130 years.

Financing Services and Strengthening Accountability

Investment in the health sector has increased significantly from €3.67 billion in 1997 to €13.4 billion in 2007. The HSE provides monthly and quarterly reports to the Department against the annual service plan. The CEO of the HSE and the Secretary General of the Department meet quarterly to discuss and monitor the HSE Service Plan.

Pandemic Planning in Ireland Pandemic planning began in 1999 when the Minister for Health and Children established an Expert Committee to oversee the preparation of a national Influenza Pandemic Plan, in accordance with WHO guidelines. This plan - *A Model Plan for Influenza Pandemic Preparedness* - was finalised in 2002 and was based on best practice at that time.

A generic public health emergency plan for the health system was prepared in 2004. The *Public Health Emergency Plan* includes disease-specific operational plans in relation to SARS, pandemic influenza and smallpox.

The Pandemic Influenza Expert Group was reconvened in 2005 and ***Pandemic Influenza Preparedness for Ireland - Advice of the Pandemic Influenza Expert Group*** was published on 15th January 2007. This guidance document updates previous guidance contained in the 2002 Model Plan. This is a draft consultative document and the consultation period closed on 30th April 2007. The final version will be published within the next few months.

The ***National Pandemic Influenza Plan*** was also published on 15th January 2007. This document was produced by the DoHC and HSE and reflects the advice of the Pandemic Influenza Expert Group. Its purpose is to limit the effects of a potential pandemic and to

- inform the public about pandemic influenza
- explain what the Government and the health services are doing to prepare for a possible pandemic

- give information on what members of the public need to do if there is a pandemic.

The plan concentrates on the health response to pandemic influenza but also provides some advice on the planning which must take place across all sectors of society.

Notable Strengths

1. An important development in the past few years has been the drawing together of the primary and secondary health care services in Ireland into a single unified Health Service Executive rather than a disparate number of health boards. While like all re-organisations this produces the stresses of a change process and there are many details to be worked out it is essentially a positive move for health protection as there is an easier scope for rapid central reporting and for command and control mechanisms.

2. There is a very high level of ministerial commitment to comprehensive and in-depth pandemic preparedness, which has already been translated into significant commitment of resources.

3. There is a strong and energetic central planning group which has been putting major effort into planning and preparedness. This has produced a revised National Pandemic Influenza Plan (January 2007) supported by comprehensive Advice of an Expert Group and Supplements, January 2007.

4. The current National Pandemic Influenza Plan touches on virtually all of the essential planning elements laid out by the EU and WHO.

5. The DoHC has made a clear presumptive policy commitment towards meaningful acquisitions of pandemic vaccine and has secured oseltamivir for 25% and zanamivir for 20% of the population.

6. There is a very close working relationship between the Department of Health and the Department of Agriculture and Food, and between public health and animal health specialists.

7. The publication of *Business Continuity Planning for an Influenza Pandemic* by the Department of Enterprise, Trade and Employment is an excellent contribution to the broader planning agenda.

8. The agreement reached through Partnership* on co-operation with redeployment and suspension of Industrial Relations actions for the duration of a pandemic is an example of best practice.

***** Social partnership in Ireland is a process by which issues of social policy can be agreed between the Government and the social partners. The social partners include trade unions, employers, farming organisations and the community and voluntary sector. The Government and the social partners engage in negotiations on social policy issues that result in a social partnership agreement. Partnership in the health service is set in the context of the national social partnership agreement. It operates through the Health Services National Partnership Forum which is a joint management / trade union steering committee for workplace partnership in the health service.

Seasonal influenza

1. Seasonal influenza surveillance

Description 1

The 1947 Health Act entitles the Minister for Health and Children to specify by regulation the diseases that are infectious diseases and covered by legislation. Influenza is included in the list of notifiable diseases. On 1st July 2000, the Health Protection Surveillance Centre (HPSC) was assigned responsibility for the collation and analysis of weekly notifications of infectious diseases, taking over from the DoHC.

The HPSC in partnership with the Irish College of General Practitioners and the National Virus Reference Laboratory (NVRL) has established a network of computerised general sentinel practices who report on a weekly basis the number of patients seen with influenza-like illness.

Currently, 47 general practices (located in all HSE areas and representing 4.3% of the national population) participate and report electronically, on the number of patients who consulted with influenza-like illness (ILI) on a weekly basis. Year round weekly reporting has been in place since 2006.

Sentinel GPs are requested to send a combined nasal and throat swab on at least one ILI patient per week to the National Virus Reference Laboratory (NVRL). Swabs are tested for influenza using immunofluorescence and PCR techniques and results are reported to HPSC. The NVRL also test respiratory specimens (predominantly paediatric), referred mainly from hospitals for influenza, RSV, parainfluenza 1 2, and 3 and adenovirus.

Each regional Department of Population Health has also established one sentinel hospital in each HSE area, reporting total, accident and emergency, and respiratory admissions data on a weekly basis. Sentinel primary and secondary schools are also located in each HSE area in close proximity to the sentinel GPs, reporting weekly absenteeism data.

The regional Departments of Population Health report an influenza activity index every week to HPSC. The activity index is analogous to that used by the WHO global influenza surveillance system and the European Influenza Surveillance Scheme (EISS).

The regional Departments of Population Health also report all notified cases of influenza and all influenza/ILI outbreaks to HPSC every week. An enhanced dataset on all hospitalised influenza cases aged between 0 and 14 years of age is also reported to HPSC from the Departments of Population Health. From January 2005, HPSC was notified of all registered deaths on a weekly basis from the General Registrar's Office (GRO).

Between weeks 40 and 20, weekly influenza surveillance reports are published. From weeks 20 to 40 (summer), monthly reports are published and each year an annual report is published. These are available at: http://www.ndsc.ie/hpsc/A-Z/Respiratory/Influenza/Publications/. HPSC also report the clinical and virological dataset to the European Influenza Surveillance Scheme (EISS).

The National Virus Reference Laboratory participates in the WHO Global Influenza Surveillance Network and is classified as a National Influenza Centre by WHO. Subtyping is not carried out in Ireland; it is done in Millhill, UK. 5 regional laboratories have been identified, but have not yet been equipped and trained as decisions are awaited on roll out of designated assay.

Since December 2004, HPSC has received a weekly electronic file from the General Registrar's Office (GRO) on all causes of death in the previous week and HPSC checks the number of deaths caused by influenza on a weekly basis. This is not an accurate estimate, as the literature indicates that influenza as a cause of death is under reported. Currently a pilot study is underway exploring the benefits of using these data. A model to estimate baseline and excess thresholds will be developed thus allowing for the detection of excess deaths due to pneumonia and influenza as a proxy for increased influenza activity.

Comment 1

Surveillance for seasonal influenza is essentially strong. There is a comprehensive and well-established current seasonal influenza surveillance system as regards monitoring the incidence of disease which is functional all year round and using different sources of information.

Information on vaccination and travel are not currently gathered (though information is gathered on children).

Mortality data is potentially a very important source of information during a pandemic. Up to December 2005, there was a requirement to register a death within five days of its occurrence. The legislation then changed to allow persons to register deaths up to three months following death, thus potentially limiting the value of this data source as a timely early warning of the impact of the pandemic. The Expert Group has advised that consideration should be given to reviewing the Civil Registration Act, with a view to shortening the timeframe for death registration to five days, so that timely mortality surveillance during the pandemic can be achieved.

The weakness on death surveillance identified in the pilot is a serious one as it means that the most severe disease manifestation of influenza infection will not be captured in a timely way by surveillance.

Although some surveillance of hospitalised cases is undertaken (<14year olds) and one sentinel hospital in each area provides data on a weekly basis, further development of systems to collect data from hospitalised patients with influenza should be considered.

Recommendation 1

1.1 ECDC to exchange for comment and information the seasonal influenza surveillance objectives it has developed internally.

1.2 The authorities should look into ways of making the primary care surveillance even more robust so that it would be more likely to be sustainable in a pandemic Phase 6. ECDC to advise on how this might be achieved.

1.3. The authorities to consider the feasibility of extending sentinel seasonal influenza surveillance to include automated collection of data on patients with influenza from hospitals (based on syndromes and/or multiple ICD codes).

1.4. The authorities to consider legal and other means as to how timely mortality surveillance can be facilitated during the pandemic. They should liaise with the Danish-led EU initiative on this if that is funded.

1.5 The authorities should consider adding vaccination and travel history to the sentinel surveillance system.

2. Seasonal influenza vaccination programmes

Description 2

The policy is a standard one of recommending vaccination in those aged over 65, those with chronic medical conditions and health care workers.

Influenza vaccine is available free of charge from general practitioners to all those at risk of contracting the disease. The "at risk" groups include persons aged 65 years or older, healthcare workers and carers, those with specific chronic illness such as chronic heart, lung or kidney disease, or with a suppressed immune system. The National Immunisation Advisory Committee has recommended the extension of routine influenza vaccination to everyone aged over 50 years on a phased basis. This recommendation has been accepted by the Department of Health and Children and the HSE is examining the feasibility of reducing the age limit to 60 for the 2008/9 influenza season. Meanwhile, the HSE is concentrating on increasing uptake among the over 65 age cohort. There is good publicity.

Uptake figures for influenza vaccination are only systematically measured in those people in older age groups with a General Medical Services (GMS) medical card.

- For those 70+ years, all are entitled to a GMS medical card, and so the uptake covers all of this population. Vaccine and administration is free for those with a GMS medical card
- For those aged 65-70 years, 50% of this population are entitled to a free GMS medical card and their uptake can be measured. Uptake in those aged 65-70 years who are not entitled to a medical card is not known and this group must pay a fee for vaccine administration
- Those in the at risk groups under 65 years of age receive the vaccine free of charge. If they have a GMS card (about 30% population) they are entitled to free administration, otherwise they too must pay an administration fee.

Coverage data is as follows in those aged 65 years and over: 2003/2004: 62%; 2004/2005: 61.4%; 2005/2006: 63%.

As well as monitoring uptake through returns an imaginative telephone surveillance has been undertaken as a project. A national telephone survey on influenza and pneumococcal vaccine uptake was undertaken in 2006 (n-1500; quota sample). Influenza vaccine uptake results as follows:

Aged ≥ 65 years: 68.6%
Aged 18-64 years (risk group): 27.6%

Healthcare workers: 20%Comment 2

As in most EU countries monitoring of uptake poses special difficulties for what is mostly an adult vaccine. Coverage data for the last two of the three groups is very difficult to obtain. Coverage has improved in the elderly but is not on track to achieve the WHO target for the elderly (75%) by 2010.

Recommendation 2

Acknowledging the difficulties in identifying high risk groups currently in Ireland, efforts should be made to improve mechanisms for collection of data on vaccine uptake in such groups. This information would allow Ireland to better target and refine their immunisation strategies.

3. Seasonal influenza laboratory capacity

See item 7.

Pandemic Influenza

4. Planning and Coordination

Description 4

Political Awareness
The potential magnitude and severity of an influenza pandemic is recognised at the highest political and administrative levels. The Government is regularly briefed on issues regarding avian influenza and pandemic influenza. These are also on the agenda of the Government Task Force on Emergency Planning which meets regularly. Pandemic preparedness has also been addressed in meetings between the Minister for Health and Children and her counterpart in Northern Ireland. Cross-border issues relating to pandemic flu are also reported on regularly to the Cabinet Committee on North/South Issues.

Significant funding has been allocated to develop contingency plans – €9.3 million in 2005 and €19.3 million in 2006 and 2007. Most of this investment has been put towards the national stockpile of medicines and supplies.

Roles and Responsibilities

The Department of Health and Children is the lead Government department in responding to a public health emergency and the Health Service Executive is the lead agency.

The public health emergency management structures include:

- Cabinet Committee as required
- Government Task Force on Emergency Planning
- Interdepartmental Committee on Public Health Emergency Planning
- National Public Health Emergency Team
- HSE Planning and Crisis Management Teams
- Pandemic Influenza Expert Group.

Cabinet (Government) Committee

A Cabinet Committee will give policy direction, as necessary, on countermeasures recommended by the Department of Health and Children following assessment by the National Public Health Emergency Team. The Department of An Taoiseach, in consultation with the Department of Health and Children, will make arrangements for convening the Cabinet Committee.

Government Task Force on Emergency Planning

The task force is chaired by the Minister for Defence and co-ordinates and oversees the emergency planning activities of all Government Departments and public authorities. The task force comprises those Ministers and/or senior officials of Government Departments and public authorities, which make a key contribution to the emergency planning process. Avian influenza and pandemic influenza are regular items on the task force agenda.

Inter-Departmental Committee on Public Health Emergency Planning

This committee was established by the Department of Health and Children in 2006 to consider issues which go beyond the health aspects of a public health emergency. It is chaired by the Chief Medical Officer. The committee's initial focus is on pandemic influenza.

National Public Health Emergency Team

The National Public Health Emergency Team (NPHET) is the forum for managing the interface between the Department of Health and Children and the Health Service Executive during the planning and response phases of a public health emergency.

NPHET is chaired by the Secretary General of the DoHC. The other Department representatives are the Chief Medical Officer (Alternate Chair); Principal Officer, Public Health Division; and any other DoHC official nominated by the Secretary General – currently Deputy CMO and Assistant Principal in Public Health Division.

The HSE members are led by the CEO and include the Director of Population Health; Assistant National Director for Emergency Planning; Assistant National Director for Health Protection; and any other HSE official nominated by CEO.

NPHET may also include the Chair or nominee of relevant expert group (expertise of this person will be sought as appropriate by the Chairman) and any other person nominated by the Chair.

During planning phases NPHET meets on a quarterly basis, or more frequently as required, to:

1. Consider the most up to date risk assessment and consider any implications for policy and planning.

2. Agree timeframes for the development of HSE plans to meet policy objectives of the DoHC.

3. Discuss HSE reports on Public Health Emergency Management activity.

During the response phases it will:

1. Act as the conduit for two way communications between the HSE and the DoHC

2. Act as a forum for the consideration of and decision on critical actions based on:

- Review of HSE assessment of national and international surveillance data relevant to the public health emergency and the implications arising from that assessment

- Review of reports from the HSE on the progress of the health system response to the public health emergency

- Recommendations arising from the work of the Standing Inter-Departmental Committee on Public Health Emergency Planning

3. Ensure the effective implementation of a coordinated public and media communications strategy.

<u>HSE Planning and Crisis Management Teams</u>

The HSE has established National and Area Planning and Crisis Management Teams to prepare for and manage the HSE's response to an influenza pandemic based on the work of the National implementation steering group and its six working groups. Work on implementation of plans is ongoing and is being co-ordinated and monitored through the business planning process in each service. In the response phase the National Crisis Management Team and the four Area Crisis Management Teams will co-ordinate the operational response. In particular they will, through datasets being designed, monitor how the health system is responding, assess strategies for response and take decisions regarding the deployment of resources at national and regional levels.

Comment 4

In the health sector there is a very high level of ministerial commitment to comprehensive and in-depth pandemic preparedness, which has already been translated into significant commitment of resources. There is a strong and energetic central planning group which has

been putting major effort into planning and preparedness. This has produced a revised National Pandemic Influenza Plan (January 2007) supported by comprehensive advice of an Expert Group and Supplements, January 2007.

It is clear from the 600+ pages of advice produced by the expert group, that much thinking has taken place around strategic planning for a pandemic. The challenge will be to develop the initial consultation document into a concise and meaningful guidance document to support implementation of plans. It's also unclear how the advice will be considered where there are cross-sectoral implications. The current National Pandemic Influenza Plan touches on virtually all of the essential planning elements laid out by the EU and WHO. Less well developed is the intersectoral guidance and that should be the next step working through the Inter-Departmental Committee on Public Health Emergency Planning.

Recommendation 4.

The relevant authorities within health and beyond should consider the advice of the Expert Group and should draw up and implement plans based on this guidance. Given the proximity to the UK the authorities and the Expert Group should look at the *Pandemic Presumptions*[8] published by the UK Government in March 2007 and draw on some of the thinking on public health measures that will shortly be coming to Member States.

5. Avian Influenza (H5N1) Issues

Description 5

The Department of Agriculture and Food (DAF) is responsible for controlling Avian Influenza in birds and mammals other than humans. An Expert Advisory Group was established in 2006 to advise on all aspects of the adequacy of the control arrangements. A National Disease Control Centre (NDCC) has been established with a network of Local Disease Control Centres (LDCCs). The NDCC is responsible in a crisis for deployment of staff and resources, directing and monitoring operations at the LDCCs, provision of information to stakeholders, provision of information to international agencies, authorisation of vaccine.

A Contingency Plan for Avian Influenza has been prepared. The plan includes an operation manual, which contains chapters on the following: suspect avian influenza; confirmed avian influenza; poultry meat and egg product plants; forms; notices and permits; information leaflets; slaughter and disposal; cleaning and disinfection; public health aspects; licenses.

Surveillance for Avian Influenza in poultry has been in place since 1995. This was increased in 2003 as part of EU survey. Wild bird surveillance has also been in place since 2003.

Biosecurity advice was posted to 800 registered poultry flockowners in February 2005. Later that year registration was introduced for all poultry flock owners. In February 2006 a biosesecurity booklet was issued to some 9,000 registered flock owners. This was accompanied by health advice for flock owners and travel advice. A further mailshot of biosecurity advice to 9,000 flockowners took place in February 2007.

[8] http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_073168

There is ongoing close contact between the DAF, DoHC and the HSE on issues of mutual concern.

Comment 5

Preparedness for outbreaks of highly pathogenic avian influenza in Ireland is impressive. In addition to fulfilling obligations for surveillance in wild birds and domestic poultry, authorities have proactively undertaken training days for organisations that will play a role in containment, including police, civil volunteer force and army. This includes information and practical teaching on the use of Personal Protective Equipment (PPE), fit testing and the development of a database to record all those that have gone through training. The database also includes fit-test information for each individual. A clear risk assessment 'tool' has been developed to identify relative risk for those involved in all activities relating to the control of an AI outbreak, with an associated hierarchy of risk reduction measures to be applied for each of the 6 different risk groups. Registration of all poultry flock is obligatory to assist in the identification of possible birds at risk if AI is identified in a certain area. An issue that has arisen in three or more EU countries is the public health response to an outbreak of Low Pathogenicity Avian Influenza (LPAI). The authorities should consider how they would respond to this in a proportionate manner.

There was some discussion after the visit on immunisation of poultry workers with seasonal influenza. All Poultry Workers are offered seasonal flu vaccine. This Public Health measure was first introduced for the 2005/6 flu season. Its purpose is to prevent the possibility of an individual being infected by both avian influenza and human influenza at the same time. There are no plans to offer H5N1 vaccine to poultry workers.

Recommendation 5

The risks to humans from culling LPAI AI outbreaks should be assessed within the hierarchy of risks. This should be done by linking with ECDC which is doing a short risk assessment on this and the other countries having discussions on this aspect (Denmark, Netherlands and the UK).

6. Pandemic Surveillance, Situation Monitoring and Assessment

Description 6

The Expert Group advice, published in January 2007, contains advice on the surveillance and situation monitoring activities that should be carried out by pandemic phase.

Unusual or unexplained events of acute respiratory or influenza like illnesses/deaths are legally notifiable as clusters in the latest revised infectious disease regulations. Protocols and guidance are in place for the screening, detection, reporting and surveillance of persons potentially infected with avian influenza A (H5N1).

The sentinel surveillance system includes year round reporting of non sentinel surveillance virological specimens. The NVRL is a National Influenza Centre and is part of the Global Influenza Surveillance Network.

The Expert Group has advised that enhanced case based surveillance be undertaken on all initial cases of pandemic influenza in order to describe accurately the epidemiology of the disease, the clinical features and outcome. Case reporting forms have been developed, and enhanced information on cases will be collated in CIDR, the national Computerised Infectious Disease Reporting system. This capacity within CIDR has already been developed. HPSC will collate, analyse and report on this information.

The Expert Group has made recommendations regarding hospitalisation surveillance that will be required during a pandemic and has also identified the situation monitoring requirements (absenteeism rates – health, general workplace and school; monitoring of essential supplies and resources; non health impact – status on fuel, food supply maintenance of essential services).

Comment 6

A national surveillance implementation group has been established to implement the recommendations on surveillance of influenza activity.

Work is at an early stage on developing situation monitoring reports on hospitalisations, attendances, and other health service activities that will be needed during the pandemic. It is understood that situation monitoring requirements for the wider system are being discussed by the Inter-Departmental Committee.

Recommendation 6

6.1 ECDC should share its initial paper on Surveillance in a Pandemic with the authorities in Ireland.

6.2 Ireland should progress its work on developing these situation monitoring systems and reports. The authorities might usefully look at the situation monitoring documents developed by the Civil Contingencies Secretariat in the UK.

7. National reference laboratory for influenza / National influenza centre (NIC)

Description 7

The National Virus Reference Laboratory (NVRL) at University College Dublin provides a national diagnostic and reference service for clinicians investigating virus infections. The facilities available to NVRL activities include a state of the art laboratory for molecular diagnostics, a dedicated GMP Laboratory for reference testing for the Irish Blood Transfusion Service (IBTS), a Biosafety Level 3 (+) containment laboratory and a range of research

laboratories.

The laboratory is fully accredited by both the Clinical Pathology Accreditation and the World Health Organisation as a National Laboratory for Poliovirus, Influenza, Rubella and Measles.

Comment and Recommendation 7

The NVRL is a strong centralized and impressive central facility in relatively new facilities with good links both internationally and to a regional network of laboratories.

This is working exceptionally well and is functioning as the 'server' for a strong national network of virological expertise. One detail that was not clear was the need for a clear policy on trigger points for the lab to switch from specific diagnostic work to global surveillance in a pandemic (i.e. when to stop testing all patients and switch to sampling). It was notable that the Centre had a single member of consultant medical staff working with a strong, able and enthusiastic team under him. This arrangement of a single consultant cannot be regarded as safe for a national virological service and consideration now needs to be given to bringing the senior staff numbers more in line with other countries and to more succession planning for staff in the NIC.

The assessment team recognised that the resourcing of pandemic preparedness has to be managed within overall staffing resources and with regard to other competing demands and has to be based on making the best use of existing resources, including through improved work practices and skill mix where appropriate.

8. Outbreak investigation capacity, general and during a pandemic

Description 8

The membership of the National Outbreak Response Team for an outbreak of A/ (H5N1) has been agreed. National coordination of the initial response will be undertaken by HPSC. Currently outbreak investigation capacity is not available 24/7 due to industrial relations difficulties. Protocols for the initial investigation of cases of novel virus infection are in place.

Comment 8

There is a definite and urgent need for an out of hours service. Responding to an infectious disease outbreak requires a significant input from public health doctors in terms of surveillance and disease control measures. Ireland does not currently have the capacity to respond effectively out of hours to an outbreak either at domestic level or to the EU's early warning system for outbreaks at EU/WHO level (see item 17).

Recommendation 8

The external team understands that all parties accept the need for an out of hours service. Outbreak capacity should be considered in any review of public health capacity (see item 17). The assessment team recognises that the resourcing of pandemic preparedness has to be managed within overall staffing resources and with regard to other competing demands and

has to be based on making the best use of existing resources, including through improved work practices and skill mix where appropriate.

9. Planning Assumptions

Description 9

The Pandemic Influenza Expert Group has recommended that the HPA empirical model, based on the profile of previous pandemics, be adopted for planning purposes. In applying this model to the Irish situation two scenarios have been considered. Scenario 1 consists of a clinical attack rate of 25%, a hospitalisation rate of 0.55% and a mortality rate of 0.37%. Scenario 2 consists of a clinical attack rate of 50%, a hospitalisation rate of 3.7% and a mortality rate of 2.5%.

This range of estimates on the potential impact of a future pandemic has been adopted for planning purposes.

Comment 9

The UK HPA empirical model has been adopted for planning purposes with a range of assumptions. The HSE has issued guidance to service areas based on these assumptions to help plan for additional capacity during a pandemic.

Recommendation 9 See comment and recommendation 20 on modelling capacity.

10. Antivirals and other Essential Supplies

Description 10

The DoHC and HSE have secured oseltamivir for 25% and zanamivir for 20% of the population. This is a therapeutic stockpile and is stored securely. Vigorous attempts have been made to develop practical distribution plans but have yet to settle on a solution.

Personal protective equipment (masks, gloves, gowns) are also being stockpiled for healthcare workers. This will be rotated through the normal supply system to ensure stock is always in date.

The Expert Group has produced guidance on antibiotic use during a pandemic. Consideration has been given to the need for stockpiling of antibiotics but to date this has not been recommended. The matter is being kept under review.

Comment 10

As in many other EU countries it remains to be clarified how the antivirals will be delivered in a timely manner to the public when and where they need them.

Recommendation 10

10.1 ECDC to finalise and send the revised versions of its background documents on antiviral resistance and antivirals as these become available. The authorities should continue to work to develop practical plans for distribution and exchange these with other countries. ECDC should consider nominating this as a topic at the next EU Pandemic Preparedness Workshop in Luxembourg in September.

10.2 In line with the thinking of the Expert Group and the experience of the UK during its pandemic exercise the topic of how supplies of antibiotics would be sustained in a pandemic should be considered by the authorities.

11. Non-Pharmacological Public Health Measures

Description 11

Expert guidance has been developed in this area with regard to the WHO categorisation of public health measures:

1. Information for the public, communications
2. Measures to reduce the risk of cases transmitting infection to others
3. Measures to reduce the risk that contacts of cases transmit infection
4. Measures to increase social distance e.g. school closures
5. Measures to decrease interval between symptom onset and patient isolation
6. Disinfection measures
7. Measures for persons entering or exiting an infected area within the country
8. Measures at borders for persons entering or exiting a country
9. Measures at borders for international travellers coming from or going to affected areas
10. Entry screening
11. Exit screening
12. Measures for travellers on board international conveyances from affected areas

Comment 11

The expert advice is sound and these recommendations have been referred to the Interdepartmental Committee on Public Health Emergency Planning for consideration.

Recommendation 11

11.1 The Interdepartmental Committee on Public Health Emergency Planning should consider the recommendations of the Expert Group and make adoptions as policy as it sees fit.

11.2 ECDC should finalise its menu on public health measures and distribute that to assist in such discussions.

12. Pandemic Vaccines

Description 12

The DoHC has now made a clear presumptive policy commitment towards meaningful acquisitions of a pandemic vaccine. The Pandemic Influenza Expert Group has advised on priority groups for vaccination during an influenza pandemic. This advice has been accepted. The priority groups for vaccination during an influenza pandemic are:

1. Healthcare staff with patient contact (including ambulance staff) and staff in residential care homes for the elderly
2. Providers of essential services e.g. fire, utilities, Gardaí (police), security, communications, defence forces, undertakers, and essential healthcare staff without direct patient contact
3. Those with high medical risk e.g. chronic respiratory or heart disease, renal failure, diabetes or immunosuppression due to disease or treatment, women in the last trimester of pregnancy, and children aged from 6 months to 23 months
4. All over 65 years of age
5. Selected industries – maintenance of essential supplies e.g. pharmaceuticals
6. Selected age groups, depending on advice from WHO e.g. children
7. Offer to all

These priorities are subject to change as the epidemiology becomes evident.

The HSE has developed a mass vaccination strategy to allow for administration of the pandemic vaccine on a prioritised basis as soon as it becomes available.

Recommendation 12

Work should continue on refining detailed plans as to how the pandemic vaccine will be prioritised and delivered.

13. Simulation Exercises

Description 13

Ireland participated in the EU Exercise Common Ground and there is a stated intention to have a national large scale exercise.

Comment 13

The commitment to a large scale exercise is an essential one but equally not to be rushed into. In discussions the idea came up of the need for two exercises, one for the health services and one for the health and other services (like the recent UK Winter Willow exercise).

The role of the Expert Group in an actual pandemic is not clear and how it would function given that then all the members would be extremely busy with their ‘day jobs’.

Recommendation 13

13.1 Ireland should consider having one or two large scale exercises with carefully developed objectives and drawing on international experience. These would need to be resourced so that their development did not exhaust those they are meant to be evaluating and supporting.

13.2 The 'acute' role of the Expert Group should be tested for feasibility and utility during these exercises. The relevant authorities should explore how other Advisory Groups e.g. that of the UK function in peace time and war time. Also it should be explored if there could be any observer status at exercises in other jurisdictions.

14. Maintenance of Basic Services

Description 14

In 2001 certain Government structures were put in place to support emergency planning in Ireland and to improve coordination across the various existing national emergency plans.

The Minister for Defence chairs a Government Task Force on Emergency Planning which is the top-level structure which gives policy and direction, and which coordinates and oversees the emergency planning activities of all Government Departments and public authorities.

The Office of Emergency Planning (OEP) was established in the Department of Defence to support the Minister for Defence as Chairman of the Government Task Force. It is responsible to the Minister for Defence for the coordination and oversight of emergency planning and provides administrative back up for this work. In Ireland the lead responsibility for specific emergency planning functions remains with the relevant Government Departments.

The Department of Health and Children is the lead Department for public health emergencies and chairs an Inter-Departmental Committee on Public Health Emergency Planning which was established in 2006 to consider issues which go beyond the health aspects of pandemic influenza. The committee's terms of reference are:

1. To support the Department of Health and Children in planning for and responding to a public health emergency focussing initially on pandemic flu planning.

2. To support the development of vaccine and antiviral strategies with particular reference to the definition of key workers in essential services.

3. To assist in planning for mass vaccination.

4. In light of developments nationally and internationally, to advise on measures needed in non-health areas of public policy or public services to support the protection of public health, with particular reference to social distancing measures.

5. To review and report on the effectiveness of the measures referred to above.

6. Any other relevant matter.

Maintenance of essential non-health services is the responsibility of relevant Government Departments. Each Government Department is responsible for developing contingency plans in its own sector.

Comment 14

Operationally the Irish pandemic preparedness infrastructure is potentially well designed in the health sector to deliver cross-sectoral response to a pandemic, as an emergency management corporate team within the HSE has central competence in the management of all types of civil emergency, and this experience can be usefully applied elsewhere. However, it is also important that the good planning that has been taken forward in health care preparedness is expanded to include broader questions relating to the maintenance of civil society during a long term emergency such as pandemic influenza.

The *Status Report* on pandemic preparedness highlighted areas where more work needs to be done. This includes ensuring that planning and preparedness are integrated across Government Departments.

It is not clear to the external team that the existing structures allow for the co-ordinated development and management of national contingency plans for maintenance of non-health essential services.

EU countries including Ireland need to be confident that essential services like power, food and fuel supplies will continue to function at the local level. As outlined in the *Status Report,* there was a consensus at regional meetings in 2006 that countries that have not already done so should consider establishing command and control or coordination structures above the health sector e.g. Prime Minister's offices. Experience of Member States is that such offices are very useful but they need to have the necessary authority, capacity and experience.

Recommendation 14

14.1 The authorities should examine how best to integrate preparedness across the non-health sectors at the national level.

14.2 Groups like the Interdepartmental Committee should now work through the relevant issues. ECDC to supply its list of multisectoral planning issues which is available on the Internet at **http://www.ecdc.eu.int/pdf/Multisectoral%20planning%20table.pdf**

15. Interoperability Issues

Description and Comment 15 There are good links across the land border with the UK and through attendance at various UK and EU events. However Ireland like all other EU countries suffers from the lack of a common development focus for EU policies on pandemic flu.

16. Specific Innovations

Description 16

During its visit ECDC saw an excellent example of an innovation with a well-attended event for the commercial sector on pandemic preparedness and the launch of a document *Business Continuity Planning for an Influenza Pandemic* by the Department of Enterprise, Trade and Employment as a contribution to the broader planning agenda. As a result of discussions at central Government level on the possible impacts of an influenza pandemic, the Department of Enterprise, Trade and Employment requested Forfás to undertake a study on the preparedness of Irish businesses for a pandemic. *(Forfás is Ireland's national policy and advisory board for enterprise, trade, science, technology and innovation*.)

The study found that SMEs in particular had little or no planning done in this area. On 28th February 2007, in order to increase awareness of the need to plan for a flu pandemic, the Department published a Report entitled "*Business Continuity Planning – Responding to an Influenza Pandemic*". The Report introduces businesses to the threats behind a flu pandemic and provides a comprehensive checklist to assist them plan effectively for such an occurrence. A suite of 10 illustrative case studies is included with the report. This report is available from the Department's website (www.entemp.ie).

ECDC also was presented with a model of how one local hospital was planning seriously and in detail about how it would continue to function during a pandemic. *See item 18*

Comment 16
The need to develop pandemic plans is now well recognised, and the *Status Report* on pandemic preparedness within the EU highlights the progress that has been made within the EU Member States on this issue. However, much of the work to date has focused on the health care sector. While health care planning is critical, there is also a need to plan for the wider impact of a pandemic within society as a whole. The document produced by the Irish authorities makes an excellent contribution to this broader planning agenda, as it provides a tool to assist businesses to develop pandemic preparedness plans, including small businesses. This is necessary as an influenza pandemic would have a very significant impact on economic activity and would pose a major threat to business continuity.

Recommendation 16 ECDC should highlight the Business Continuity guidance on its web-site and Ireland might consider drawing it to people's attention at the 4th EU workshop in

September and in a document that ECDC is considering preparing for the Health Council during the Portuguese Presidency in December 2007.

17. Local Public Health Manpower

Description 17

Because of the abbreviated nature of the visit this was not an area that could be considered in any detail. The external team notes the recommendation from the Pandemic Influenza Expert Group regarding the need to plan for a robust public health infrastructure and sufficient surge capacity for public health.

Comment 17

When the visiting team members asked whether the issue of overtime payments in the event of a crisis was clear they were informed of an industrial relations issue concerning out of hours cover by public health doctors. If this was unresolved when a pandemic occurred it would significantly impair response.

The external team notes that the DoHC and the HSE are working towards a resolution of the industrial relations issues in relation to out of hours working by public health doctors. Agreement has been reached with the Irish Medical Organisation regarding the development of an out-of-hours service for health protection on an interim basis. This is pending the outcome of the Review Body on Higher Remuneration in the Public Sector which is to resolve the issue definitively. This review is expected to be published in 2007.

Since late September 2006, discussions between the Population Health Directorate of the HSE and Public Health Doctors have been ongoing. These discussions centred around the operational issues and protocols to apply in the event of a call out situation arising, together with the numbers and locations of personnel on call and the frequency of any such on call.

Now that agreement has been reached on the operational aspects of the provision of the services, the Irish Medical Organisation and the HSE – Employers Agency have referred the issue of the pricing of such arrangements to the Labour Court. As public health out of hours cover is essential for pandemic response this development is to be welcomed.

Recommendation 17

17.1 It should be considered whether the public health manpower is adequate at the local level for supporting a response to pandemic influenza. The assessment team recognises that the resourcing of pandemic preparedness has to be managed within overall staffing resources and with regard to other competing demands and has to be based on making the best use of existing resources, including through improved work practices and skill mix where appropriate.

17.2 The external team understands that all parties accept the need for an out of hours service and notes that the issue is being dealt with through the normal industrial relations machinery.

18. Hospital and Local Preparedness

Description 18

Because of the abbreviated nature of the visit this was not an area that could be looked into systematically though an excellent and informative presentation was made by the HSE and especially HSE South.

Comment 18

Preparing hospital for a pandemic is not easy and few EU countries have yet to make much progress on this at a local level. The single hospital plan presented was impressive and imaginative. It represented one of the few credible plans for a hospital yet seen. It is understood that this is not the only hospital pandemic plan in Ireland but that not all hospitals have developed their thinking to this extent.

Recommendation 18

The Waterford plan and the other local plans should be tested out by local exercises. Lessons from these exercises should be shared across the health services. It is recommended that a mechanism be devised for the HSE authorities to then systematically audit local preparedness perhaps using or adapting ECDC's local acid tests. ECDC should suggest that the Waterford plan be shown on a European stage.

19. Communications

Description 19

Advanced planning is being carried forward in close co-operation with the UK authorities. A one stop shop domain name has been identified for a national pandemic web-site and a template for web material etc. prepared.

A leaflet drop is planned to all citizens in phase 5, and arrangements for this are underway. A particularly strong element of the communications plan is the positive emphasis on personal responsibility and what each person should do to minimise impact, including developing 'in-family' plans. All this is underpinned by a public focused updated pandemic preparedness plan that was released on 15th January. An issue that has arisen is the supply of materials to many minority groups whose first language is not English and who find English language materials difficult to understand. This includes people from a number of EU countries.

Comment 19

The Communications plan presented was stronger and more developed than many seen. It now needs to be implemented. It was noted that this will require some resources. It was unclear how this health sector action plan would fit into pan-government external communications during a pandemic. A large part of the communication and management of care in the pandemic is via a central telephone hotline. Hence the success of much of the planning is very dependant on this system. It is therefore important that the telephone hotline

is tested to ensure that it has both the capacity and robustness to function efficiently in the pandemic situation, including for example how the required man-power and logistics for this will be managed, particularly given staff absenteeism etc. It would also be prudent to consider back-up systems if such a system were to fail- thought could be given, for example, to expanding capacity via existing telephone infrastructures used by banks etc.

Recommendation 19

19.1 The Communications plan should be implemented and the planned staffing requirements should be attended to. The assessment team recognises that the resourcing of pandemic preparedness has to be managed within overall staffing resources and with regard to other competing demands and has to be based on making the best use of existing resources, including through improved work practices and skill mix where appropriate.

19.2 ECDC should consider how it can assist on non-English language leaflets. The resources needed to enact the further development of the plan should be identified and consideration given to how it would be actioned during a pandemic. Consideration needs to be given as to how a cross-government approach would be managed and delivered during a pandemic.

19.3 The telephone hotline should be formally tested to ensure that it has both the capacity and robustness to function efficiently in the pandemic situation, including for example how the required man-power and logistics for this will be managed, particularly given staff absenteeism etc.

Specific Country Issues

20. Specific Capacity Issues

Description and Comment 20

See **Comment 7** concerning the Senior Physician / Management weakness in the National Influenza Centre.

In the Health Service Executive the Health Protection Surveillance Centre has borne the brunt of the work of developing the scientific pandemic guidance. This has had considerable 'opportunity costs' and as a result other important issues have had to be put to one side.

Similar concerns arise regarding public health emergency planning in the HSE generally and the DoHC. Other important issues e.g. CBRN have had to be sidelined while the focus is maintained on pandemic flu.

It is noted that the HSE Emergency Management structures are being developed and that this has benefited pandemic planning. There is a small team in the DoHC drawn from the CMO's Office and Public Health Division working on pandemic planning but only three people (2 wte) are working fulltime in this area.

The modelling capacity available to the DoHC and HSE is slim compared to a number of other countries, especially in the field of operational modelling. This would be a significant handicap and applies to other important infections.

It is noteworthy that a statistician has recently been employed by the HPSC and that this person has made valuable links with other influenza modellers through the EU NEMO project.

Recommendation 20

20.1 The authorities should plan for a continued focus on pandemic planning over the next two to three years focussing on inter-sectoral collaboration and detailed planning at the local level.

20.2 Given that the need to work intensively on influenza continues, consideration should be given to how the teams working at national level in HSE (including HPSC) and DoHC can be reinforced so that they can sustain this work and that other priorities (HCAI, STIs, CBRN etc) are not neglected as a consequence. The authorities should also consider how they can further develop the modelling capacity needed for emergency planning in Ireland with particular emphasis on operational monitoring. The assessment team recognises that the resourcing of pandemic preparedness has to be managed within overall staffing resources and with regard to other competing demands and has to be based on making the best use of existing resources, including through improved work practices and skill mix where appropriate.

21. Ethical Issues

Description 21

It is recognised that difficult issues will arise in healthcare during a pandemic. These could include prioritisation of scarce resources and conflicts between personal and professional obligations of staff. Some of these issues are addressed in *Pandemic Influenza Preparedness for Ireland - Advice of the Pandemic Influenza Expert Group* e.g. priority groups for vaccines and antivirals.

In October 2006, the Irish Council for Bioethics discussed ethical issues in relation to pandemic planning at a conference in Dublin and will publish a report based on those proceedings. The Pandemic Influenza Expert Group has advised that ethical issues should be addressed at a national level in advance of a pandemic. The DOHC is currently considering how best to take this forward.

Comment 21

The scientific advice noted that there needed to be a mechanism for giving ethical advice in developing pandemic policies.

Recommendation 21

The authorities should consider how they will develop ethical advice that is fit for purpose both in the run up to and during the considerable stress of a pandemic. ECDC to direct the authorities to those in other countries (e.g. UK and Finland) that had developed such mechanisms and other countries that are considering this (e.g. Austria and Spain).

22 Legal Issues

Description 22

There are a number of existing legal provisions dealing with infectious diseases, and the extent to which these meet requirements in relation to pandemic influenza is being examined. As a first step, the Infectious Disease Regulations are being amended to provide for the inclusion of pandemic influenza in the list of notifiable diseases. A significant amount of work has also been done on a review of the Infectious Diseases Aircraft and Shipping Regulations. This review took account of the requirements of the IHR 2005 and a number of changes have been recommended.

Comment and Recommendation 22

The review of infectious disease regulations should be progressed within the DoHC as a matter of urgency.

Acknowledgements

The ECDC team would like to especially thank all the colleagues in Ireland listed in Appendix 3 who made this visit possible and so successful. They especially thank the Irish Self-Assessment Team led by Teresa Cody for all their work and hospitality.

Appendices

Appendix 1. Timetable assessment of influenza, pandemic and avian influenza preparedness in country

Appendix 2. Participants of country assessment visit

Appendix 3. People met

Appendix 4. Documents presented (Separate File)

Appendix 5. Completed assessment tool (Section A only) (Separate File)

Appendix 1. Timetable assessment of influenza, pandemic and avian influenza preparedness in Ireland

Day 1 Wednesday 28th 2007

Morning session in Department of Health and Children – Full Team.
Briefing on Irish Health System and Pandemic Planning in Ireland; National Pandemic Influenza Plan; Antiviral Stockpile & Distribution; Communications Strategy.

Afternoon – Team 1
Business Continuity – Dept. of Enterprise, Trade & Employment media launch.

Cross Government Response & Inter-Sectoral Co-Operation – Meeting with Dept. of Defence & Defence Forces.

Afternoon – Team Two
Avian Influenza - Meeting with Department of Agriculture and Food.

Visit to National Virus Reference Laboratory

Day 2 Thursday March 1st 2007

Morning: Health Service Executive (HSE), Phoenix Hall.
HSE Corporate Plan for Pandemic Influenza; Presentations from National Hospitals Office; Primary, Continuing & Community Care; Population Health; Local level preparedness – presentation from HSE South.

Afternoon: Health Protection Surveillance Centre.
Surveillance of communicable diseases; Seasonal influenza surveillance; Pandemic influenza surveillance; Public health response to avian influenza; Seasonal influenza vaccination programmes; Vaccine uptake.

Meeting with representatives of Pandemic Influenza Expert Group.

Day 3 Friday March 2nd 2007

Morning: Department of Health and Children
International and inter-departmental issues; Working on draft report.

Afternoon: Department of Health and Children
High-level meeting with DoHC and HSE.

Appendix 2. Participants of country assessment visit

External Team Members

Name	Position	Institution
Professor Angus Nicoll	Team leader and coordinator of ECDC influenza project	ECDC
Dr. Peter Kriedl	Senior expert and deputy coordinator of ECDC influenza project	ECDC
Mr. Howard Needham	Project officer – ECDC influenza project	ECDC
Mr. John O'Toole	External Relations and Partnership	ECDC

Internal Team Members

Name	Position	Institution
Ms Teresa Cody	Assistant Principal Officer, Public Health Division	Department of Health and Children
Dr. Eibhlín Connolly	Deputy Chief Medical Officer	Department of Health and Children
Dr. Derval Igoe	Specialist in Public Health Medicine	Health Protection Surveillance Centre, HSE
Mr. Gavin Maguire	Assistant National Director of Population Health – Emergency Management	Health Service Executive

Appendix 3. People met

DEPARTMENT OF HEALTH & CHILDREN

Mr. Michael Scanlan	Secretary General
Dr. Jim Kiely	Chief Medical Officer
Dr. Eibhlín Connolly	Deputy Chief Medical Officer
Dr. Helena Murray	Office of the CMO
Mr. Chris Fitzgerald	Principal Officer, Public Health Division
Ms Teresa Cody	Assistant Principal Officer, Public Health Division
Ms Pauline Redmond	Higher Executive Officer, Public Health Division

HEALTH SERVICE EXECUTIVE

Dr. Patrick Doorley	Director of Population Health
Mr. Gavin Maguire	Assistant National Director of Population Health – Emergency Management
Dr. Kevin Kelleher	Assistant National Director of Population Health – Health Protection
Ms Louise McMahon	Hospital Network Manager, National Hospitals Office
Ms Audrey Doyle	Project Officer – Emergency Planning, Primary, Community and Continuing Care (PCCC)
Dr. Fiona Ryan	Specialist in Public Health Medicine, HSE South and Chair, HSE Vaccine & Antiviral Working Group.
Ms Lisa Clancy	Head of Corporate Communications and Chair of HSE Pandemic Flu Communications Group
Dr. Brenda Corcoran	Specialist in Public Health Medicine, HSE National Immunisation Office
Mr. Vincent Cronly	Emergency Management Officer
Mr. Richard Dooley	Hospital Network Manager, HSE South
Mr. Dermot Halpin	Local Health Manager, HSE South
Dr. Patricia Prendiville	Specialist in Public Health Medicine, HSE South
Mr. Theo Neijenhuizen	Deputy General Manager, Waterford Regional Hospital, HSE South
Ms Marianna Kealy	Emergency Management Officer, HSE South

Dr. Darina O'Flanagan	Director, HSE Health Protection Surveillance Centre
Dr. Derval Igoe	Specialist in Public Health Medicine, HSE Health Protection Surveillance Centre
Dr. Joan O'Donnell	Specialist in Public Health Medicine, HSE Health Protection Surveillance Centre
Dr. Miriam Owens	Senior Medical Officer, HSE Health Protection Surveillance Centre
Dr. Margaret Fitzgerald	Senior Surveillance Scientist, HSE Health Protection Surveillance Centre
Dr. Jolita Mereckiene	EPIET Fellow, HSE Health Protection Surveillance Centre

NATIONAL VIRUS REFERENCE LABORATORY (NVRL)

Professor William Hall	Director
Dr. Jeff Connell	Assistant Director
Dr. Suzie Coughlan	Senior Clinical Scientist
Ms Deirdre Burke	Quality Assurance Officer
Aileen Conway	Senior Technical Officer, BL3

PANDEMIC INFLUENZA EXPERT GROUP

Professor William Hall	Chair, Director NVRL
Dr. Darina O'Flanagan	Director, HPSC
Dr. Derval Igoe	HPSC
Dr. Joan Gilvarry	Medical Director, Irish Medicines Board
Dr. David Hanlon	Irish College of General Practitioners
Dr. Gerard Sheehan	Consultant in Infectious Diseases, Mater Misericordiae Hospital, Dublin
Mr. Gavin Maguire	Assistant National Director, HSE – Emergency Management
Dr. Kevin Kelleher	Assistant National Director, HSE – Health Protection
Dr. Eibhlín Connolly	Deputy CMO, Department of Health and Children
Ms Teresa Cody	Assistant Principal, Public Health Division, Department of Health and Children

DEPARTMENT OF AGRICULTURE AND FOOD

Mr. Billy McAteer	Senior Superintending Veterinary Inspector
Ms Sally Gaynor	Superintending Veterinary Inspector
Ms Maeve Lynch	Assistant Principal, Animal Health and Welfare Division

DEPARTMENT OF DEFENCE AND DEFENCE FORCES

Mr. Brian Spain	Principal Officer, Office of Emergency Planning, Department of Defence
Cmdt. Larry Rooney	Office of Emergency Planning
Ms Patricia Troy	Assistant Principal, Executive Branch, Department of Defence
Lt. Col. Willie Dwyer	Defence Forces

LAUNCH OF BUSINESS CONTINUITY GUIDANCE

Mr. John Newham	Principal Officer, Department of Enterprise, Trade & Employment
Mr. Richard Barry	Assistant Principal, Department of Enterprise, Trade & Employment
Mr. Declan Hughes	Manager, Competitiveness Division, Forfás
Mr. Maurice Dagg	Project Manager, Science & Technology Division, Forfás
Mr. Con Gregg	Managing Director, Publica Consulting
Mr. Randall Faulkner	Director of Consulting, National Institute of Transport and Logistics