



National Seasonal Influenza Vaccination Survey in Europe, 2007/2008 Influenza season

Collaboration between VENICE project and ECDC

VENICE II

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Contents	
Abbreviations	3
Acknowledgments	3
ISO 3166-1 Country Codes	3
VENICE National Gatekeepers and Contact Points	4
Summary.....	5
Background.....	6
Aim of the study	7
Specific objectives	7
Methods and materials.....	7
Study Design.....	7
Data collection	7
Data handling.....	7
Data processing.....	7
Pilot study	7
Study time.....	8
Data analysis.....	8
Expected deliverables	8
Results	8
Response rate of data validation	8
Groups recommended for vaccine	8
Age groups	8
Occupational settings	9
Medical conditions	10
Other groups.....	10
Monitoring vaccine coverage.....	11
Numerator assessment.....	13
Type of Administrative method for numerator assessment.....	14
Time intervals for data on numerator collection	15
Denominator assessment.....	15
Vaccination coverage results	17
Number of doses influenza vaccine used in MSs.....	19
Payment and administration for vaccines	20
Vaccination sites	22
Promoting vaccination	22
Future changes.....	23
Conclusions	24
Appendices	26
Appendix 1. Data for sub national level	26
Appendix 2. Questionnaire	28
Appendix 3. Accompanying letter 1.	41
Appendix 4. Accompanying letter 2.	42
Appendix 5. Accompanying letter 3.	43

Abbreviations

ECDC	European Centre for Disease Prevention and Control
EEA	European Economic Area
EU	European Union
Flu	Influenza
MSs	Member States
VENICE	Vaccine European New Integrated Collaboration Effort
CINECA	Consortium of University, Bologna, Italy

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ISO 3166-1 Country Codes

AT	Austria
BE	Belgium
BG	Bulgaria
CY	Cyprus
CZ	Czech Republic
DK	Denmark
EE	Estonia
FI	Finland
FR	France
DE	Germany
GR	Greece
HU	Hungary
IS	Iceland
IE	Ireland
IT	Italy
LV	Latvia
LT	Lithuania
LU	Luxembourg
MT	Malta
NL	The Netherlands
NO	Norway
PL	Poland
PT	Portugal
RO	Romania
SK	Slovakia
SI	Slovenia
ES	Spain
SE	Sweden
UK	United Kingdom

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Summary

Influenza illness causes substantial morbidity and mortality each year and has a direct and indirect cost for both society and individuals. It has been estimated that influenza results in between 40,000 -220,000 excess deaths annually in the EU member states, depending on the virulence of the strain in circulation and level of population immunity.

As part of the overall objective of VENICE project to improve understanding on vaccination programmes in EU members states VENICE II was asked to repeat an influenza survey previously undertaken as part of the VENICE I project.

The aim of survey was to describe the seasonal influenza immunisation policy in the European Union (EU) member states (MSs), Norway and Iceland for 2007/2008 influenza season. This survey sought information on seasonal influenza immunisation policies among countries and any policy changes implemented, or planned, since the last survey; most recent vaccine coverage data available, including vaccination coverage on sub national level (not obtained in the previous survey).

A cross-sectional survey was undertaken in July-August 2009. This survey was a collaborative study between the European Centre for Disease Prevention and Control (ECDC), VENICE Project and European Union (EU) and European Economic Area (EEA) Member States (MS). Each MS previously identified and enrolled gatekeepers, who are responsible for conducting all VENICE surveys inside their countries.

The electronic questionnaire was developed on VENICE website. Gatekeepers in each MS entered data directly on-line. The questionnaire contained data prefilled for last year's survey. The questionnaire consisted from two parts: first – the main survey, questions remained essentially the same as for the last year's survey; the second part – the data for subnational level within the countries were requested.

The response rate was 93% (27/29).

Twenty-three countries (85%; 23/27) recommend seasonal influenza vaccination for those aged 65 years and older. Most countries recommend influenza vaccination of health care workers in hospitals (81%), long-term care facilities (89%), out-patient clinics (78%). Most countries do not have vaccination recommendations relating to essential services (81%; 22/27), families that raise poultry (84%; 22/26), veterinary (67%; 18/27) and military (78%; 21/27) services.

All countries (100%) recommend vaccination of patients with chronic pulmonary and cardiovascular disease, most of them to patients with renal and immunologic disorders (93%) or haematologic and metabolic disorders (96%). Ten countries (37%) recommend vaccine for pregnant women. Twenty-two participating countries (81%) recommend vaccination of residents of long-term care facilities.

Twenty two countries reported vaccination coverage measured by administrative method among those over 65 years, most estimates related to the 2007-2008 influenza season. The range for uptake varied from 1.06% to the 82.6%. The vaccine coverage among Health Care Workers was provided by six countries and varied from 13.4% to 89.4%; the vaccine coverage among clinical risk groups was provided by seven countries with the range from 32.9% to 71.7%.

The number of influenza vaccine doses used per 10 000 population varied greatly between countries (range 304 to 2369 doses per 10,000).

Vaccine and administration is free for all recipients aged 65 years and older and among those with chronic illness in 12 (44%) countries. Eleven countries (41%) reported that vaccine and administration is free for some occupational group recipients. In 10 (37%) countries vaccine and administration costs are free for some recipients and in 8 (30%) countries vaccine and administration costs are paid for all child recipients.

There were no major changes in seasonal influenza vaccination policy among most countries in comparison with last year's survey. FI introduced seasonal influenza vaccination for children <3 years. In 2008 IE recommended a lower age for routine influenza vaccination (from 65 years to 50 years and over).

Background

Influenza has great economic impact; large numbers of mild to moderate cases can result in time off work and losses to production as well as pressure and costs on the health and social care services. Influenza can also cause severe disease and deaths. Disease burden varies from year to year, making it hard to estimate the annual number of deaths or economic impact. One study looking at excess deaths due to influenza found that in milder influenza seasons there were around 8 deaths per 100,000 population while in more severe but non-pandemic years the figure would be 44 per 100,000. [1] Another study reported similar findings, estimating 25 per 100,000 excess deaths on average between 1989 and 1998. [2]

Applying the range to the EU population as a whole (around 500 million in 2008) influenza would result in between 40,000 excess death in a moderate season and 220,000 in a severe season. [3] These are crude figures and are not adjusted for influenza vaccine uptake in vulnerable groups or the rising proportion of very old and vulnerable people in European countries. Although much attention is paid to the impact of pandemics, many more people die in the intervening years as a result of the seasonal influenza epidemics than during the pandemics themselves. Applying the average estimate of 25 per 100,000 population would mean that over a theoretical hundred year period there would be 12.5 million excess deaths from seasonal influenza. This compares to the estimated 1.1 million that would die from a re-run of the worst recorded pandemic in the EU.[4] Certainly in the 20th Century the combined mortality from influenza in seasonal or inter-pandemic influenza considerably exceeded that seen in the pandemic years. In addition seasonal and pandemic influenza does not affect the same age groups of people. The rates of serious illness and deaths from seasonal influenza highest among persons older than 65 years of age, however younger people lose their lives during pandemic.

The VENICE project has achieved much since it was established: establishment of a collaborative European network of experts working in immunisation programmes; documenting common interests, experiences and expertise in the area of vaccination; designing tools and procedures to facilitate exchanges among participants; collating information on immunisation programmes, adverse events surveillance systems, vaccine coverage; and monitoring the policies and processes surrounding introduction of two recently licensed vaccines, HPV and rotavirus vaccination.

VENICE II started in December 2008 with the support of ECDC. The project's general aim is to collect and share information on the national vaccination programmes through the already established network of professionals and to build up a knowledge base with the objective of improving overall performance of immunisation systems in MSs. The new project will also provide information on the impact of newly introduced vaccinations in selected member states and will collect information at sub national level for selected vaccination programmes. This project will share the collected information and build up a common knowledge in order to improve the overall performance of the immunisation systems within Europe.[5]

The VENICE I project carried out the first survey to describe seasonal influenza policy, to identify the country specific recommendations for different risk groups and to obtain most recent vaccine coverage in early 2008. The first EU wide survey provided baseline information on influenza vaccination programmes among MSs showing variability between countries with regard to groups for whom vaccine is recommended and vaccination coverage and at the same time identified common target groups for vaccination. The report from this survey was valuable and provided clear and detailed information relating to influenza programmes in the MSs, providing MSs with an opportunity to learn from each other. In light of this VENICE II was asked by ECDC to repeat the survey in 2009 and to look at the changes in immunisation policies among countries since the last survey and to obtain most recent vaccine coverage data, including vaccination coverage at sub national level.

In 2003, the World Health Assembly recommended (resolution 56.193) increasing seasonal influenza vaccination coverage of all people at high risk, with the goal of attaining at least 50% vaccination coverage of the elderly population by 2006 and 75% by 2010. [6]

On July 13th, 2009 the European Council of ministers recommended that EU Member States (MS) should adopt and implement a national action plan to achieve a vaccination coverage rate of 75% in all at risk groups by the winter season 2014/2015. At risk groups were defined as individuals 65 years and older, and people with underlying medical conditions the following categories: chronic respiratory and cardiovascular diseases; chronic metabolic disorders; chronic renal and hepatic diseases; immune system dysfunctions (congenital or acquired). It was also recommended that MSs should undertake annual uptake surveys in all at risk groups in accordance with guidelines to be issued by the ECDC, and analysis of reasons for non-vaccination. [7]

Aim of the study

The aim of this survey was to describe the seasonal influenza immunisation policy in the European Union (EU) member states (MSs), Norway and Iceland for 2007/2008 influenza season and to obtain most recent immunisation uptake data in order to determine what changes have occurred since the last survey and compare vaccine uptake between countries.

Specific objectives

- To assess seasonal influenza immunisation programmes;
- To identify country specific recommendations for different risk groups;
- To define data sources that would allow for enhanced monitoring of seasonal influenza vaccine coverage;
- To obtain the most recent estimate of vaccine uptake (for 2007/2008 and 2008/2009 influenza season) for risk groups, total population and sub national level;
- To obtain information in relation to payment for seasonal influenza vaccine;
- To identify policy changes in the MSs in the nearest future.

Methods and materials

Study Design

A cross-sectional electronic based design of the survey was undertaken.

This survey was a collaborative study between the European Centre for Disease Prevention and Control (ECDC), VENICE Project and European Union (EU) and European Economic Area (EEA) Member States (MS). Each MS previously identified and enrolled gatekeepers, who are responsible for conducting all VENICE surveys inside their countries.

Currently in the VENICE project there are 27 EU and two EEA (NO and IS) participating countries.

Data collection

A standardised questionnaire was developed using close-ended questions predominantly. The online questionnaire consisted from two parts: first – the main survey, questions remained essentially the same as for the last year's survey; the second part – the data for subnational level within the countries were requested.

Information was sought on population groups recommended influenza vaccination (age, occupation, medical risk or social situation), whether countries had mechanisms in place to monitor influenza vaccine uptake and whether uptake was monitored, the method used to monitor uptake, recent vaccination coverage results by population group, season and sub national level, payment and administration costs for vaccine, health care setting where vaccine was typically administered, methodology used to promote influenza vaccines and how this activity is supported and finally, information was sought on planned policy or operational changes over the next couple of years (Appendix 1).

Data handling

The electronic questionnaire was developed on VENICE website in June 2009 by CINECA [8], which was available for all participating countries (<http://venice.cineca.org>). The electronic questionnaire was filled in by gatekeepers in each country and saved. The data file was downloaded for analysis on 11th September 2009.

Data processing

Gatekeepers in each MS entered data directly on-line. Single data entry was introduced. The questionnaire contained data prefilled for last year's survey. If answers in relation to the countries seasonal influenza policy were the same as for last year's survey, gatekeepers did not need to make any changes. There were a few new questions which were clearly marked in questionnaire. The gatekeepers were asked to report vaccine coverage for the 2007/2008 influenza season, including sub national coverage in the country. Later when a reminder was sent gatekeepers were also asked to report vaccine coverage for season 2008/2009 if these data were available in the country.

Pilot study

The questionnaire was pilot tested by four VENICE project-leading partners: Italian Istituto Superiore di Sanità (ISS), the French Institut de la Veille Sanitaire (INVS), CINECA Consortium of University, Bologna, Italy and the Irish Health Protection Surveillance Centre (HPSC). The piloting of the study was undertaken in June 2008. After the pilot study, the questionnaire was reviewed and amended as necessary.

Study time

MSs were asked to complete the electronic questionnaire between 6th June and 31st August 2009. The accompanying letter to MSs explained the objectives and rationale of the study. Later the deadline due to low response rate was extended by the 14th of September.

Data analysis

The data were analysed using the STATA software. Frequencies of all variables and the appropriate descriptive statistics were produced.

The main indicators analysed included:

1. Description of population groups recommended influenza vaccination (age, occupation, medical or social condition risk);
2. Monitoring of influenza vaccine uptake (by country and methodology);
3. Vaccination coverage results by population group, sub national level and season;
4. Costs associated with programme and who pays (state or individual) and how this impacts on uptake;
5. Usual venues for influenza vaccination;
6. Methodologies used to promote influenza vaccines and how and who supports this activity;
7. Planned policy or operational changes over the next couple of years.

Expected deliverables

The expected output of this survey is development of a technical report to inform policy makers.

Results

The survey response rate was 93% (27/29). Two countries did not complete the survey (BG,LU). Twenty three countries completed the questionnaire fully: BE,CY,CZ,DK,EE,FI,FR,DE,HU,IS,IE,IT, LV,LT,MT,NL,NO,RO,SK,SI,ES,PL,UK. The remaining four countries (AT,GR,SE,PT) partly completed the questionnaire. These data were considered as completed for this report.

Response rate of data validation

Fifteen countries validated data (BE,CY,FI,FR,DE,IS,IE,IT,LT,MT,NO,PT,RO,SK,UK), giving a validation response rate of 56%. The remaining 12 countries (AT,CZ,DK,EE,GR,HU,LV,NL,PL,SI,ES,SE) did not validate data in the draft report circulated prior to the final report being circulated.

Groups recommended for vaccine

Age groups

Twenty three countries (85%; 23/27) recommend seasonal influenza vaccination for individuals 65 years and older. Six countries (AT,EE,FI,LV,SK,SI) recommend vaccination for different age groups < 18 years regardless of risk conditions. Some changes were reported in comparison to the previous year's survey: in PL the age group recommended vaccine increased from 50 years to 55 years and older; in HU and GR from 60 to 65 years and older; FI introduced vaccination of children from 1 to 3 years; in IE the National Immunisation Advisory Committee recommended (in 2008) that all individuals aged 50 years or older (even those without risk conditions) should routinely receive influenza vaccine. Details are provided in table 1.

Table 1. Age groups for which influenza immunisation is recommended, without other risk indication. National seasonal influenza vaccination survey in Europe, July 2009 (n=27)

Age group	Countries	Total
6 – 12 months	AT,EE,FI,LV,SK,SI	6
>1 year – 2 years	AT,EE,FI,LV,SK,SI	6
>2 years – 3 years	AT,EE,FI,LV,SK	5
>3 years – 5 years	AT,EE,SK	3
>5 years – 18 years	AT,EE,SK	3
> 18 – 49 years	AT,EE	2
≥ 50 years	AT,EE,IE	3
≥ 55 years	AT,EE,IE,PL,MT	5
≥ 60 years	AT,EE,IE,DE,IS	5
≥ 65 years	AT,BE,CY,CZ,DK,EE,FI,FR,GR,HU,IE,IT,LV,LT,NL,NO,RO,SK,SI,ES,SE,PT,UK	23

Occupational settings

Most countries recommend influenza vaccination of health care workers in hospitals (81%; 22/27), long-term care facilities (89%; 24/27), out-patient clinics (78%; 21/27). Most countries do not have vaccination recommendations relating to essential services (81%; 22/27), families that raise poultry (84%; 22/26), veterinary (67%; 18/27) and military (78%; 21/27) services. Forty eight percent (13/27) of countries recommend vaccination of workers in the poultry industry. FR recommends vaccination of airline workers. Detailed information is presented in table 2.

Table 2. Occupational settings for which influenza immunisation is recommended for workers. National seasonal influenza vaccination survey in Europe, July 2009 (n=27)

Occupational setting	Countries		
	Recommended	No recommendation	Recommended against
Hospitals	AT,BE,CY,EE,FR,DE,GR,IS,IE,IT,LV,LT,MT,NL,NO,PL,RO,SK,SI,ES,PT,UK (n=22)	CZ,HU (n=2)	(n=0)
Long-term care facilities (nursing homes, and other chronic-care facilities)	AT,BE,CY,CZ,HU,EE,FR,DE,GR,IS,IE,IT,LV,LT,MT,NL,NO,PL,RO,SK,SI,ES,PT,UK (n=24)	(n=0)	(n=0)
Out-patient care clinics	AT,BE,CY,EE,FR,DE,GR,IS,IE,IT,LV,LT,MT,NL,NO,PL,RO,SK,SI,ES,PT (n=21)	CZ,HU,UK (n=3)	(n=0)
Laboratory staff*	EE,DE,IS,IE,LV,MT,RO,PT (n=8)	BE,CY,CZ,FR,GR,HU,IT,LT,NL,NO,SK,SI,ES,PL,UK (n=15)	(n=0)
Essential services (police, firemen etc.)	AT,EE,IT,MT,ES (n=5)	BE,CY,CZ,FR,DE,GR,HU,IE,IS,LT,LV,NL,NO,RO,SK,SI,PT,PL,UK (n=19)	(n=0)
Veterinary services	AT,CY,IS,IE,IT,MT,SK,SI,ES (n=9)	BE,CZ,EE,FR,DE,GR,HU,LT,LV,NL,NO,RO,PT,PL,UK (n=15)	(n=0)
Poultry industry	AT,CY,DE,GR,HU,IS,IE,IT,MT,SI,SK,ES,UK (n=13)	BE,CZ,EE,FR,LT,NL,NO,RO,PT,PL(n=10)	LV (n=1)
Families that raise poultry*	DE,IE,IT,ES (n=4)	BE,CY,CZ,EE,FR,GR,HU,IS,LV,LT,MT,NL,NO,RO,SK,SI,PT,PL,UK (n=19)	(n=0)
Military	AT,EE,DE,IT,MT,SK (n=6)	BE,CY,CZ,FR,GR,HU,IS,IE,LV,LT,NL,NO,RO,SI,ES,PT,PL,UK (n=18)	(n=0)
Airline workers*	FR (n=1)	BE,CY,CZ,EE,DE,GR,HU,IS,IE,IT,LV,LT,MT,NL,NO,RO,SK,SI,ES,PT, PL,UK (n=22)	(n=0)
None	DK,FI,SE (n=3)		

*AT no data provided

AT - All persons having no contraindications;

FR - Crew members (boat) and tour guide;

DE - Travelers;

HU - Workers of poultry farms with more than 1.000 birds. Workers who may have involved in culling poultry infected with H5N1 avian influenza, and other people who may come into close contact with inf bird;

IE - Agricultural workers, park rangers and those with likely contact with water fowl; those likely to transmit influenza to a person at high risk for flu complications (including out of home carers);

PL - Working in trade industry; Working in transport; Working in schools and universities.

ES - Risk group travelers to south hemisphere during April-September;

PT - Professionals who can be involved in culling operations of avian-influenza infected poultry.

IT – personnel who, for occupational reasons, gets in contact with animals which could be a source of non human flu viruses infection, as the following activities: breeding, transport of alive animals, slaughter, vaccinations, veterinary services.

Medical conditions

All countries (100%) recommend vaccination of patients with chronic pulmonary and cardiovascular disease, and most recommend vaccination of patients with renal and immunologic disorders (93%) or haematologic and metabolic disorders (96%). Details provided in table 3.

Table 3. Underlying medical conditions for which influenza immunisation recommended (without regard to age). National seasonal influenza vaccination survey in Europe, July 2009 (n=27)

Medical conditions	Countries	
	Recommended	No recommendation
Chronic pulmonary (including asthma) disease	AT, BE, CY, CZ, DE, DK, EE, FI, FR, GR, HU, IS, IE, IT, LV, LT, MT, NL, NO, PL, RO, SK, SI, ES, SE, PT, UK (n=27)	(n=0)
Cardiovascular (except hypertension) disease	AT, BE, CY, CZ, DE, DK, EE, FI, FR, GR, HU, IS, IE, IT, LV, LT, MT, NL, NO, PL, RO, SK, SI, ES, SE, PT, UK (n=27)	(n=0)
Renal disease	AT, BE, CY, CZ, DE, EE, FI, FR, GR, HU, IS, IE, IT, LV, LT, MT, NL, NO, PL, RO, SK, SI, ES, PT, UK (n=25)	DK, SE (n=2)
Hepatic disease *	BE, CY, DE, EE, FI, IS, IE, MT, NL, PL, SK, SI, ES, PT, UK (n=15)	CZ, DK, FR, GR, HU, IT, LV, LT, NO, RO, SE (n=11)
Haematological or metabolic disorders (including diabetes mellitus)	AT, BE, CY, CZ, DE, DK, EE, FI, FR, GR, HU, IS, IE, IT, LV, LT, MT, NL, NO, PL, RO, SK, SI, ES, PT, UK (n=26)	SE (n=1)
Immunologic disorders other than HIV/AIDS	AT, BE, CY, DE, DK, EE, FI, FR, GR, HU, IS, IE, IT, LV, LT, MT, NL, NO, PL, RO, SK, SI, ES, PT, UK (n=25)	CZ, SE (n=2)
HIV/AIDS*	BE, CY, DE, DK, EE, FI, FR, GR, IS, IE, IT, LV, LT, MT, NL, NO, PL, RO, SK, SI, ES, PT (n=22)	CZ, HU, SE, UK (n=4)
Long-term aspirin use (in children up to 18 years old)*	BE, CY, EE, FI, FR, GR, HU, IS, IE, IT, LV, LT, MT, NL, RO, SI, ES, PT (n=18)	CZ, DE, DK, NO, PL, SK, SE, UK (n=8)
Pregnancy	AT, BE, CY, DK, EE, IE†, IT, SK, ES, PT (n=10)	CZ, DE, FI, FR, GR, HU, IS, LV, LT, MT, NL, NO, PL, RO, SI, SE, UK (n=17)
Any condition (e.g., cognitive dysfunction, spinal cord injuries, seizure disorders, or other neuromuscular disorders) that can compromise respiratory function or the handling of respiratory secretions or that can increase the risk for aspiration	AT, CY, DE, DK, FI, IS, IE, IT, MT, NL, SI, ES, PT (n=13)	BE, CZ, EE, FR, GR, HU, LV, LT, NO, PL, RO, SK, SE, UK (n=14)

*AT no data provided

† pregnant women with other medical risk condition

IT cancer; chronic inflammatory diseases and intestinal malabsorption syndromes; diseases for which major operations have been planned.

Other groups

Seasonal influenza vaccine is recommended for residents of long-term care facilities in 22 countries (81%); more than half of countries (52%) recommend vaccination of household contacts of persons for whom vaccination is recommended (table 4).

Table 4. Other groups for which influenza vaccine is recommended. National seasonal influenza vaccination survey in Europe, July 2009 (n=27)

Other groups'	Countries	
	Recommended	No recommendation
Residents of long-term care facilities (nursing homes and other chronic-care facilities)	AT,BE,CY,CZ,DE,EE,FR,GR,HU,IS,IE,IT,LT,MT,NL,NO,RO,SK,SI,ES,PT,UK (n=22)	DK,LV (n=2)
Household contacts of persons for whom vaccination is recommended	AT,BE,CY,EE,FR*,IS,IE,IT,LT,NO, PT* RO,SK,ES (n=14)	CZ,DK,DE,GR,HU,LV,MT, NL,SI,UK (n=10)
None	FI,PL,SE (n=3)	

*FR,PT - vaccination is recommended in France for household contact of babies (<6 months) with underlying medical conditions.

Monitoring vaccine coverage

The UK has mechanisms to monitor uptake in all risk groups. The following five countries (AT,GR,LV,PL,NO) do not have mechanisms to monitor vaccine coverage for any risk groups. Twenty one countries have mechanisms to monitor vaccine coverage for some risk groups: BE,CY,CZ,DK,EE,FI,FR,DE,HU,IS,IE,IT,LT,MT,NL,RO,SK,SI,ES,SE,PT. Detailed information presented in the table 5.

Table 5. Groups for which MSs have mechanisms to monitor vaccine coverage for some risk groups. National seasonal influenza vaccination survey in Europe, July 2009 (n= 21)

	Countries	
	Have mechanism to monitor vaccine coverage*	Do not have mechanism to monitor vaccine coverage
Age group		
Months – 1 year	IS,FI,IT,NL,EE,LT (n=6)	BE,CY,CZ,DK,FR,DE,HU, IE, MT,RO,SK,SI,ES,SE,PT (n=15)
>1 year – 2 years	IS,FI,IT,NL,EE,LT (n=6)	BE,CY,CZ,DK,FR,DE,HU, IE,MT,RO,SK,SI,ES,SE,PT (n=15)
>2 years – 5 years	IS,IT,NL,EE,LT (n=5)	BE,CY,CZ,FI,DK,FR,DE,HU, IE,MT,RO,SK,SI,ES,SE,PT (n=16)
>5 years – 18 years	IS,IT,NL,SI,EE,LT (n=6)	BE,CY,CZ,FI,DK, FR,DE,HU, IE, MT,RO,SK,ES,SE,PT (n=15)
> 18 – 49 years	DE,IS,IT,NL,SI,EE,LT (n=7)	BE,CY,CZ,DK, FI,FR,HU, IE, MT,RO,SK,ES,SE,PT (n=14)
≥ 50 years	BE,DE,IS,IT,NL,SI,EE,LT (n=8)	CY,CZ,DK, FI,FR,HU, IE, MT,RO,SK,ES,SE,PT (n=13)
≥ 65 years	BE,DK,EE,FI,FR,DE,IS,IE,IT,LT,MT, NL,RO,SK,SI,ES,SE,PT (n=18)	CY,CZ,HU (n=3)
Risk setting		
Hospitals	CY,ES,PT (n=3)	BE,IS,CZ,DK,EE,FI,FR,DE,HU, IE,IT,LT,NL,MT,RO,SK,SI,SE (n=18)
Laboratory staff	CY (n=1)	BE,CZ,DK,EE,FI,FR,DE,HU, IS,IE,IT,LT,NL,MT,RO,SK,SI,ES,SE,PT (n=20)
Families that raise poultry	(n=0)	BE,CY,CZ,DE,DK,EE,FI,FR,HU, IS,IE,IT,LT,NL,MT, RO,SK,SI,ES,SE,PT (n=21)
Long-term care facilities (nursing homes and other chronic-care facilities)	CY,CZ,FR,NL,PT (n=5)	BE,DK,EE,FI,DE,HU,IS,IE,IT,LT, MT,RO,SK,SI,ES,SE (n=16)
Out-patient care clinics	PT (n=1)	BE,CY,CZ,DK,EE,FI,FR,DE,HU, IS,IE,IT,LT,NL,MT,RO,SK,SI,ES,SE (n=20)

Essential services (police, firemen etc.)	(n=0)	BE,CY,CZ,DK,EE,FI,FR,DE,HU,IS,IE,IT,LT,NL,MT,RO,SK,SI,ES,SE,PT (n=21)
Veterinary services	(n=0)	BE,CY,CZ,DK,EE,FI,FR,DE,HU,IS,IE,IT,LT,NL,MT,RO,SK,SI,ES,SE,PT (n=21)
Poultry industry	(n=0)	BE,CY,CZ,DK,EE,FI,FR,DE,HU,IS,IE,IT,LT,MT,NL,RO,SK,SI,ES,SE,PT (n=21)
Military	DE (n=1)	BE,CY,CZ,DK,EE,FI,FR,HU,IS,IE,IT,LT,MT,NL,RO,SK,SI,ES,SE,PT (n=20)
Airline workers	(n=0)	BE,CY,CZ,DK,EE,FI,FR,DE,HU,IS,IE,IT,LT,MT,NL,RO,SK,SI,ES,SE,PT (n=21)
Risk condition		
Chronic pulmonary (including asthma) disease	DK,HU,FR,NL (n=4)	BE,CY,CZ,EE,FI,DE,IS,IE,IT,LT,MT,RO,SK,SI,ES,SE,PT (n=17)
Cardiovascular (except hypertension) disease	DK,HU,FR,NL (n=4)	BE,CY,CZ,EE,FI,DE,IS,IE,IT,LT,MT,RO,SK,SI,ES,SE,PT (n=17)
Renal disease	HU,NL,FR (n=3)	BE,CY,CZ,DK,EE,FI,DE,IS,IE,IT,LT,MT,RO,SK,SI,ES,SE,PT (n=18)
Hepatic disease	NL (n=1)	BE,CY,CZ,DK,EE,FI,FR,DE,HU,IS,IE,IT,LT,MT,RO,SK,SI,ES,SE,PT (n=20)
Haematological or metabolic disorders (including diabetes mellitus)	DK,NL (n=2)	BE,CY,CZ,EE,FI,FR,DE,HU,IS,IE,IT,LT,MT,RO,SK,SI,ES,SE,PT (n=19)
Immunologic disorders other than HIV/AIDS	DK,NL (n=2)	BE,CY,CZ,EE,FI,FR,DE,HU,IS,IE,IT,LT,MT,RO,SK,SI,ES,SE,PT (n=19)
HIV/AIDS	DK,NL (n=2)	BE,CY,CZ,EE,FI,FR,DE,HU,IS,IE,IT,LT,MT,RO,SK,SI,ES,SE,PT (n=19)
Long-term aspirin use (in children up to 18 years old)	NL (n=1)	BE,CY,CZ,DK,EE,FI,FR,DE,HU,IS,IE,IT,LT,MT,RO,SK,SI,ES,SE,PT (n=20)
Pregnancy	DK (n=1)	BE,CY,CZ,EE,FI,FR,DE,HU,IS,IE,IT,LT,MT,NL,RO,SK,SI,ES,SE,PT (n=20)
Respiratory tract	DK (n=1)	BE,CY,CZ,EE,FI,FR,DE,HU,IS,IE,IT,LT,MT,NL,RO,SK,SI,ES,SE,PT (n=20)

Comments for other age groups:

CY - Residents of nursing homes and other chronic-care facilities;

EE* - Age-groups: 0-4; 5-14, 15-49; 50-64;65+;

FI - 2-3 years;

HU - >=60 years;

IS - 60 years and older;

IT* - 0-4; 5-14;15-24; 25-64; 65+

LT* - 0-17; 18-64; >=65

SI - 6 months - 4 years.

Comments for other risk settings:

CY - Residents of nursing homes and other chronic-care facilities;

HU - Health care workers;

NL - Primary care; cross sectional population surveys.

Comments for other risk conditions:

HU - Diabetes mellitus.

FR – The specific study conducted in 2007-08 season provided estimates of vaccination coverage among some chronic target disease including also immunologic disorder and HIV infection, diabetes, neurologic diseases, sickle cell anemia and cystic fibrosis.

Following countries reported that they measure vaccine coverage in the entire population:

AT,BE,CZ,DE,EE,FR,IS,IT,LV,LT,MT,NL,NO,PL,SK,SI,PT,UK (n=18); the remaining nine countries do not measure vaccine coverage in the entire population (CY,DK,FI,GR,HU,IE,ES,SE,RO).

Numerator assessment

Twenty three countries (CZ,EE,PL,SK,SI,LT,NL,IS,IT,LV,ES,SE,PT,MT,BE,DE,UK,FR,IE,CY,AT,DK,NO) reported methods used for vaccine coverage assessment, which are presented in the table 6 below.

Table 6. Methods to measure the numerator and assess influenza vaccination coverage. National seasonal influenza vaccination survey in Europe, July 2009 (n=23)

Methods of coverage assessment	Country	Last conducted
Health record data		
Medical records	CZ	N/A
	EE	December 2008
	PL	December 2008
	SK	August 2008
	SI	March 2008
	LT	January 2008
Computerised medical records (not specific to immunisation)		
	NL	2008
Immunisation registry (routinely collected information)		
	IS	December 2008
	IT	March 2009
	LV	December 2008
	ES	March 2008
	SE	N/A
	PT	March 2009
	MT	February 2009
Immunisation survey (active collection of immunisation data)		
	BE	2004
	CZ	N/A
	DE	September 2008
	NL	2008
	SE	2006
	PT	January 2009
	UK	January 2008
Survey type		
Household survey		
	DE	September 2008
Individual interview in person		
	BE	2004
Telephone survey		
	FR	2008
	DE	September 2008
	IE	June 2006
	SE	June 2006
	PT	January 2009
Mail survey		
	CY	May 2007
	SE	N/A
Pharmaceutical data		
Pharmaceutical distribution data (from industry)		

	AT	April 2007
	BE	March 2008
	IS	December 2008
	MT	April 2008
	SK	August 2008
	SE	NA
	PT	April 2009
Pharmaceutical distribution data (from national purchaser)		
	CY	N/A
	CZ	2008
	DK	January 2008
	IS	December 2008
	MT	April 2008
	NO	April 2008
	SK	August 2008
	SE	2008
Pharmaceutical sales data (from private pharmacies)		
	CY	N/A
	DE	December 2008
	SK	August 2008
	ES	March 2008
	PT	April 2009
Prescription data		
	CZ	April 2008
	DE	December 2008

NA – not available; FI,GR,HU did not specified any methods for numerator assessment. RO - GPs and other medical settings' reports (April 2008);

EE - Data on vaccines sales from Estonian Drug Agency (October 2006);

NO - From all wholesalers in Norway (April 2008);

SE - Reports from vaccinators.

Type of Administrative method for numerator assessment

Fifteen countries use one method to measure the numerator (LV,AT,BE,NO,FR,IE,EE,HU,IT,MT,NL,PL,RO,SI,ES); four countries (DK,UK,CY,LT) use two; six countries (FI,IS,SE,CZ,PT,DE) use three methods and one country (SK) uses four methods for numerator assessment, all of which are specified in the table 7.

Table 7. Administrative methods used to measure the numerator in assessing influenza vaccine coverage. National seasonal influenza vaccination survey in Europe, July 2009 (n=26)

Administrative method	Countries	Total
Aggregate collection of number of vaccines administered	DK,FI,IS,LV,SK,SE,UK	7
Aggregate collection of number of vaccines distributed (industry)	AT,BE,CZ,SK,SE,PT	6
Aggregate collection of number of vaccines distributed (national purchaser)	CY,CZ,FI,IS,LT,NO,SK	7
Aggregate collection of number of vaccines sales (private pharmacies)	CY,DE,PT	3
Payment/ reimbursement claims	CZ,DK,FR,DE,IS,IE	6
Number of people vaccinated	EE,FI,DE,HU,IT,LT,MT,NL,PL,RO,SK,SI,ES,SE,PT,UK	16

BE - Aggregate collection of number of vaccines distributed (industry) with net of returns;

NO - From all wholesalers in Norway.

Time intervals for data on numerator collection

Most countries collect the data for numerator assessment at the end of the influenza season or annually at various times (19; 76%).

Table 8. Time intervals at which numerator data are collected for assessing influenza vaccine coverage. National seasonal influenza vaccination survey in Europe, July 2009 (n=25)

Frequency of numerator assessment	Countries	Total
Never	GR	1
Monthly	LT,LV,UK,IE	4
Every three months	EE	1
Once, at the end of influenza season	CY,CZ,DE,HU,IS,NO,RO,SI,SK	9
Annually, specify date/time:	AT (Spring)	10
	DK (First quarter of the year)	
	FI (April)	
	FR (September)	
	IT (Late spring)	
	MT (February following year)	
	NL (June)	
	PL (31 st December)	
	ES (First quarter of the following year)	
	SE (Spring)	

BE - Survey type: 1997, 2001, 2004 and now in 2008. Vaccines distributed: annually at end of influenza season.

PT - Annually for number people vaccinated; monthly for vaccines distributed during the season.

Denominator assessment

Eight countries have data on population/denominator available for occupational groups, nine for medical conditions and seven for other categories. The majority of countries have these data for the elderly (≥ 65 years) age group (table 9).

Table 9. Population/denominator data available to assess vaccination coverage. National seasonal influenza vaccination survey in Europe, July 2009 (n=27)

	Countries		
	Denominator available	Denominator not available	Not responded/Unknown**/Not applicable*
Age group (n=27)			
If yes, specify: (n=19)			
Age group data available:	BE,DE,EE†,FI,FR,HU,IS,IE,IT†,LV,LT†,MT,NL,PL,SK,SI,ES,SE,UK (n=19)	CY,CZ,DK,GR,NO,RO (n=6)	AT,PT* (n=2)
Months – 1 year	FI,FR,IS,IE,IT,MT,NL,UK,EE,LT (n=10)	BE,DE,HU,LV,SK,ES,PL (n=7)	SI**,SE (n=2)
>1 year – 2 years	BE,FI,FR,IS,IE,IT,MT,NL,SI,UK,EE,LT (n=12)	DE,HU,LV,SK,ES,PL (n=6)	SE (n=1)
>2 years – 5 years	BE,FR,IS,IE,IT,MT,NL,SI,UK,EE,LT (n=11)	FI,DE,HU,LV,SK,ES,PL (n=7)	SE (n=1)
>5 years – 18 years	BE,FR,IS,IE,IT,MT,NL,SI,UK,EE,LT (n=11)	FI,DE,HU,LV,SK,ES,PL (n=7)	SE (n=1)
> 18 – 49 years	BE,FR,DE,IS,IE,IT,MT,NL,SI,UK,EE,LT (n=12)	FI,HU,LV,SK,ES,PL (n=6)	SE (n=1)
≥ 50 years	BE,FR,DE,IS,IE,IT,MT,NL,SI,UK,EE,LT (n=12)	FI,HU,LV,SK,ES,PL (n=6)	SE (n=1)
≥ 65 years	BE,DE,EE,FI,FR,IS,IE,IT,LT,MT,SK,SI,ES,SE,UK (n=15)	HU,LV,PL (n=3)	NL** (n=1)
Occupation groups (n=27)			
Occupation group data	CY,DE,HU,MT,RO,SI,PT,	AT,BE,CZ,DK,EE,FI,FR,	(n=0)

available:	UK (n=8)	GR,IS,IE,IT,LV,LT,NL, NO,PL,SK,ES,SE (n=19)	
If yes, specify: (n=8)			
Hospital personnel	MT,RO,SI,PT,UK (n=5)	CY,DE,HU (n=3)	(n=0)
Laboratory staff	MT,UK,PT (n=3)	CY,DE,HU,RO,SI (n=5)	(n=0)
Families that raise poultry	(n=0)	CY,DE,HU,MT,RO,SI,UK (n=7)	PT* (n=1)
Long-term care facilities personnel (nursing homes and other chronic-care facilities) personnel	CY,MT,SI,PT (n=4)	DE,HU,RO,UK (n=4)	(n=0)
Outpatient care clinics personnel	MT,SI,PT (n=3)	CY,DE,HU,RO,UK (n=5)	(n=0)
Essential services (police, firemen etc.) personnel	MT,SI (n=2)	CY,DE,HU,RO,PT,UK (n=6)	(n=0)
Veterinary services personnel	MT,SI (n=2)	CY,DE,HU,RO,PT,UK (n=6)	(n=0)
Poultry industry personnel	UK (n=1)	MT,SI,CY,DE,HU,RO,PT (n=7)	(n=0)
Military personnel	MT,SI,PT (n=3)	CY,DE,HU,RO,UK (n=5)	(n=0)
Airline workers	(n=0)	MT,SI,CY,HU,RO,UK (n=6)	DE**,PT* (n=2)
Medical condition categories (n=27)			
Medical category data available:	BE,FR,DE,HU,NL,RO,SI,P T,UK (n=9)	AT,CY,CZ,DK,EE,FI,GR, IS,IE,IT,LV,LT,MT,NO,PL, SK,ES,SE (n=18)	(n=0)
If yes, specify below: (n=9)			
Chronic pulmonary (including asthma) disease patients	BE,FR,DE,HU,NL,PT,UK (n=7)	RO,SI (n=2)	(n=0)
Cardiovascular (except hypertension) disease patients	BE,FR,DE,HU,NL,PT,UK (n=7)	RO,SI (n=2)	(n=0)
Renal disease patients	BE,FR,DE,HU,NL, PT,UK (n=7)	RO,SI (n=2)	(n=0)
Hepatic disease patients	BE,FR,DE,NLPT,UK (n=6)	RO,SI,HU (n=3)	(n=0)
Hematological or metabolic disorders (including diabetes mellitus) patients	BE,FR,DE,NL,PT,UK (n=6)	RO,SI,HU (n=3)	(n=0)
Immunologic disorders other than HIV/AIDS patients	BE,DE,UK (n=3)	FR,RO,SI,NLHU,PT (n=6)	(n=0)
HIV/AIDS patients	BE,FR,RO,SI (n=4)	DE,HU,NL,PT,UK (n=5)	(n=0)
Long-term aspirin users (in children up to 18 years old)	(n=0)	BE,FR,DE,HU,NL,RO,SI,PT, UK (n=9)	(n=0)
Pregnant women	FR,DE,SI (n=3)	BE,HU,NL,RO,PT,UK (n=6)	(n=0)
Patients with any condition (e.g., cognitive dysfunction, spinal cord injuries, seizure disorders, or other neuromuscular disorders) that can compromise respiratory function or the handling of respiratory secretions or that can increase the risk for aspiration	DE (n=1)	BE,FR,HU,NL,RO,SI,PT,UK (n=8)	(n=0)

Other group categories** (n=27)			
Other group data available:	CY,CZ,DK,FR,NO,SK,PT (n=7)	AT,BE,EE,FI,DE,GR,HU,IS,IE,IT,LV,LT,MT,NL,PL,RO,SI,ES,SE,UK (n=20)	(n=0)
If yes, specify below: (n=7)			
Population of <u>residents</u> of long-term care facilities (nursing homes and other chronic-care facilities)	CY,CZ,FR,SK,PT (n=5)	DK,NO (n=2)	(n=0)
Number of household <u>contacts</u> of persons for whom vaccination is recommended	(n=0)	CY,CZ,DK,FR,NO,SK,PT (n=7)	(n=0)

Comments for other age groups:

BE population data (midyear populations) for every age;

EE† 0-4; 5-14; 15-49; 50-64; 65+;

FI 2-3 years old;

FR All ages available belongs to the table 1;

HU >=60 years;

IS 60 years and older;

IE Using census data we could estimate age group by year (it is estimate, not 100% accurate);

IT† Other age groups: 0-4; 5-14; 15-24; 25-64; 65+

LV Less than 18 years;

LT† 0-17;18-64; >=65;

PL 0-4;

SK Vaccination coverage is assessed using data from insurance companies in the following age groups: 0 years - 15 years; 16 years - 58 years; 59 years and over. Vaccination coverage among 65 years and over is assessed using data from medical records. Data from the industry and from the private companies are used to compare the data.

Comments for other medical conditions:

UK- stroke/TIA, chronic degenerative neurological disorders.

Comments for other group categories:

DK - Persons at or above 65 years of age. Persons at risk below 65 years of age.

FR - Estimation though specific studies.

NO - It has been estimated that persons belonging to a risk group and persons >= 65 year of age is approx. 19% of the Norwegian population.

SK - Social care facilities.

Vaccination coverage results

Twenty two countries reported vaccination coverage measured by administrative method among those over 65 years of age, most of them for the 2007-2008 influenza season. The uptake ranged from 1.06 - 82.6%. Vaccine coverage among Health Care Workers was provided by six countries (range 13.4 - 89.4%); vaccine coverage among clinical risk groups was provided by seven countries (range 32.9 -71.7%). The data are presented in table 10. The data for vaccine coverage measured by survey methods are presented in table 11.

Table 10. Vaccination coverage **measured by administrative method** of uptake assessment. National seasonal influenza vaccination survey in Europe, July 2009 (n=27)

Country/ Risk group	Percentage	Season	Percentage	Season
Over 65				
BE	63.4	2003-2004		
DK	54	2007-2008		
EE	1.06	2007-2008		
FI	48	2007-2008	51	2008-2009
DE	61	2007-2008		
HU	34.1	2006-2007		
IS	32	2007-2008		
IE	61.7	2007-2008	58.9 (Provisional)	2008-2009
IT	64.9	2007-2008	66.2	2008-2009
LT	8.1	2007-2008	11.2	2008-2009
MT	42	2007-2008	51	2008-2009
NL	82.6	2007-2008		
NO	50	2007-2008	47	2008-2009
PL	9.1	2007-2008		
RO	52.6	2007-2008	49.40	2008-2009
SK	33.4	2007-2008	35.5	2008-2009
SI	25.6	2007-2008		
ES	62.9	2007-2008		
SE	56	2006-2007		
PT	50	2007-2008	50	2008-2009
FR	64	2007-2008		
UK	73.5	2007-2008		
Unknown	AT,CY,CZ,GR,LV			
HCWs				
DE	23	2007-2008		
HU	23.7	2006-2007		
RO	89.4	2007-2008	97.82	2008-2009
ES	28.1	2007-2008		
PT	26.0	2007-2008		
UK	13.4	2007-2008		
Unknown	AT,BE,CY,CZ,DK,EE,FI,FR, GR,IS,IE,IT,LV,LT,MT,NL, NO,PL,SK,SI,SE			
Clinical risk groups				
BE	47	2003-2004		
FR	52	2007-2008		
DE	49	2007-2008		
HU	32.9	2007-2008		
NL	71.7	2007-2008		
NO	50	2007-2008	47	2008-2009
UK	45.3	2007-2008		
Unknown	AT,CY,CZ,DK,EE,FI,GR, IS,IE,IT,LV,LT,MT,PL,RO,SK, SI,ES,SE,PT			
Total population without risk				
CY	13.8	2007-2008		
EE	1.54	2007-2008		
DE	28	2007-2008		
HU	10	2007-2008		
IS	16.1	2007-2008		
IT	18.4	2007-2008	19.1	2008-2009
LV	1.2	2007-2008		

LT	7.1	2007-2008	7.8	2008-2009
NO	12	2007-2008	12	2008-2009
SK	12.7	2007-2008	12.8	2008-2009
SI	7.5	2007-2008		
PT	15	2006-2007	15	2008-2009
Unknown	AT,BE,CZ,DK,FI,FR, GR,IE,MT,NL,PL,RO,ES,RO,UK			

NO - In Norway we can only calculate the coverage in the group over 65 and clinical risk factors together.

Table 11. Vaccination coverage **measured by survey method** of uptake assessment. National seasonal influenza vaccination survey in Europe, July 2009 (n=25)

Country/Risk group	Percentage	Season 2007-2008 (or most recent)	Percentage	Season 2008-2009
Over 65				
FR	69	2007-2008		
DE	52.6	2004-2005		
IE	68.6	2005-2006		
NL	82.6	2007-2008		
PT	51	2007-2008	53	2008-2009
Unknown	BE,CY,CZ,DK,EE,FI, GR,HU,IS,IT,LV,LT, MT,NO,RO,SK,SI,ES,PL,UK			
HCWs				
FR	48	2004-2005		
IE	20	2005-2006		
Unknown	BE,CY,CZ,DK,EE,FI,DE, GR,HU,IS,IT,LV,LT, MT,NL,NO,PL,RO,SK,SI,ES,UK			
Clinical risk groups				
FR	38	2007-2008		
IE	45.8	2005-2006		
NL	71.7	2007-2008		
Unknown	BE,CY,CZ,DK,EE,FI, DE,GR,HU,IS,IT,LV,LT, MT,NO,PL,RO,SK,SI,ES,UK			
Total population without risk				
FR	26	2007-2008		
DE	30.6	2004-2005		
NL	21.8	2007-2008		
Unknown	BE,CY,CZ,DK,EE,FI,GR, HU,IS,IE,IT,LV,LT,MT, NO,PL,RO,SK,SI,ES,UK			

Subnational coverage

Sub national differences in vaccination recommendations within country were reported by two countries (ES,DK).

Data on vaccine coverage for sub national level were available in eight countries (DK,IE,IT,PL,ES,LT,PT,UK), four countries (LT,PL,IE,IT) provided these data and two (IT, LT) provided vaccine coverage for the total population. Data for sub national level were not available in 14 countries: BE,CY,CZ,EE,FR,DE,GR,HU,IS,NL,NO,RO,SK,SI. Not applicable: FI, LV, MT (Table 18 in appendix 1).

Number of doses influenza vaccine used in MSs

The data for number of doses of influenza vaccine used per 10 000 total population and for those at risk are presented in table 12.

Table 12. Total number of doses used per 10 000 population influenza vaccine used in MSs for season 2007-2008. National seasonal influenza vaccination survey in Europe, July 2009 (n=25)

Country	Population (mln)	Number of doses purchased by country	Total population at risk*	Number of doses per 10 000 of those at risk (over 65 and underlying conditions)	Number of doses per 10 000 population for total population
BE	10.63	2 276 000	2 689 000	8464	2141
CY	0.789	108 926	160 000	6807	1380
DK	5.47	720 718	1 287 000	5600	1317
FI	5.3	840 000	1 306 000	6431	1584
DE	80.2	19 000 000	23 131 000	8214	2369
HU	10.1	1 100 000	2 441 000	4506	1089
IS	0.315459	50 900	N/A	N/A	1613
IE	4.24	591 299	836 000	7073	1395
IT	59.13	12 137 127	16 681 000	7276	2053
MT	0.4	110 000	125 000**	4200**	1000**
NO	4.7	579 888	N/A	N/A	1234
RO	21.53	3 700 000	4 993 000	7410	1718
SK	5.38	682 117	1 087 000	6275	1268
SI	2.03	150 261	486 000	3092	740
PL	38.12	1 158 878	8 280 000	1400	304
PT	10.6	1 500 000	2 708 000	5539	1415
UK	61	7 976 165	14 802 000	5388	1307
CZ	10.3	Unknown			
EE	1.34	Unknown			
FR	64.6	Unknown			
GR	11.19	Unknown			
LV	2.27	Unknown			
LT	3.36	Unknown			
NL	16	Unknown			
ES	44.231	Unknown			

* Total population at risk was taken from ECDC document where estimation of risk groups of each EU country was made based on Eurostat data (over 65 years and older) and based on methodology by Fleming and Eliot (population under 65 with risk), 2006. Available on line (page 28):

http://www.ecdc.europa.eu/en/publications/publications/0808_gui_priority_risk_groups_for_influenza_vaccination.pdf

** MT provided their estimations for size of risk groups. It was not taken from ECDC.

AT,SE not responded

IT No. of doses in 2008 11869048; Total population in 2008 - 59.61.

Payment and administration for vaccines

The actual charge to the vaccine recipient was reported by LV, SI, PL. There is regional variation in cost incurred to patient within Poland and varies by 51% or more between regions. Charge for some recipients was reported by BE,CY,EE,FR,IS,IE,LT. There is no charge for recipients is in following countries: CZ,DK,FI,DE,GR,HU,IT,MT,NL,RO,ES,SK,UK. In NO there is no fixed charge for administration of the vaccines, but all recipients have to pay both for vaccine and for administration. PT reported 40% subsidy.

Table 13. National government subsidies (some or all) of the cost of vaccine and administration. National seasonal influenza vaccination survey in Europe, July 2009 (n=27)

Status	Countries	Total
Government subsidises	BE,CY,CZ,DK,FI,FR,GR,HU,IS,IE,IT,LV,LT,MT,NL,RO,SK,SI,ES,PT,UK	21
Government does not subsidise	AT,EE,DE,NO,PL,SE	6

Vaccine and administration is free for all recipients aged 65 years and older and for those with chronic illness in 12 (44%) countries. Eleven countries (41%) reported free vaccine and administration for all and ten countries (37%) - free for some recipients in recommended occupational groups. Fourteen countries (52%) reported that full vaccine and administration costs are paid by recipients in other cost category groups (table 14).

Table 14. Cost to persons being vaccinated. National seasonal influenza vaccination survey in Europe, January 2008 (n=27)

Cost category	Countries	Total
Elderly, cost category (65 years and older):		
Vaccine and administration free for all recipients	DK,FI,FR,DE,HU,IT,MT,NL,RO,SK,ES,UK	12
Vaccine and administration free for some recipients	CY,GR,IE,LT,PL	5
Partial subsidy for vaccine and administration (below cost to recipient) for all recipients	BE,CZ,IS,LV,SI,PT	6
Partial subsidy for vaccine and administration (below cost to recipient) for some recipients	AT	1
Full vaccine and administration cost paid by all recipients	EE,NO	2
Full vaccine and administration cost paid by some recipients		0
Missing	SE	1
Chronic illness, cost category:		
Vaccine and administration free for all recipients	DK,FI,FR,DE,HU,IT,MT,NL,RO,SK,ES,UK	12
Vaccine and administration free for some recipients	CY,GR,IE,LT	4
Partial subsidy for vaccine and administration (below cost to recipient) for all recipients	BE,IS,LV,SI,PT	5
Partial subsidy for vaccine and administration (below cost to recipient) for some recipients	AT,CZ	2
Full vaccine and administration cost paid by all recipients	EE,NO,PL	3
Full vaccine and administration cost paid by some recipients		0
Missing data	SE	1
Occupational groups, cost category:		
Vaccine and administration free for all recipients	EE,FI,HU,IT,MT,RO,SK,SI,ES,PT,UK	11
Vaccine and administration free for some recipients	BE,CY,CZ,FR,DE,GR,IE,LV,LT,PL	10
Partial subsidy for vaccine and administration (below cost to recipient) for all recipients	IS	1
Partial subsidy for vaccine and administration (below cost to recipient) for some recipients	AT	1
Full vaccine and administration cost paid by all recipients	DK,NL,SE	3
Full vaccine and administration cost paid by some recipients		0
Other	NO*	1
Children, cost category:		
Vaccine and administration free for all recipients	FI,RO,SK,ES	4
Vaccine and administration free for some recipients	CY,CZ,DK,DE,GR,HU,IE,PL,FR,UK	10

Partial subsidy for vaccine and administration (below cost to recipient) for all recipients	LV,PT	2
Partial subsidy for vaccine and administration (below cost to recipient) for some recipients	AT,BE,SI	3
Full vaccine and administration cost paid by all recipients	EE,IS,IT,LT,MT,NL,NO,SE	8
Full vaccine and administration cost paid by some recipients		0
Other, cost category:		
Vaccine and administration free for all recipients	RO,SK,ES	3
Vaccine and administration free for some recipients	CY,DK,FR,GR,IE,UK	6
Partial subsidy for vaccine and administration (below cost to recipient) for all recipients	HU,PT	2
Partial subsidy for vaccine and administration (below cost to recipient) for some recipients	AT,CZ	2
Full vaccine and administration cost paid by all recipients	BE,EE,FI,DE,IS,IT,LV,LT,MT,NL,NO,PL,SI,SE	14
Full vaccine and administration cost paid by some recipients		0

* NO Vaccine and administration for some recipients are paid by the employer.

Vaccination sites

The principal outlet for seasonal influenza vaccination in most countries is the primary health care setting (23; 85%).

Table 15. Principal outlets for influenza vaccination. National seasonal influenza vaccination survey in Europe, July 2008 (n=27)

Principal outlets for vaccination	Country	Total
Primary health care settings	BE,CY,DK,EE,FR,DE,GR,HU,IS,IE,IT,LV,LT,MT,NL,NO,PL,RO,SK,SI,ES,SE,UK	23
Hospital setting		0
Outpatient care clinics	CZ,FI	2
Occupational health services		0
Other	AT*PT**	2

AT*medical doctors vaccinate - pharmacies sell the medical product.

PT**Primary care centers, private clinics and occupational settings.

Promoting vaccination

Specific information materials for public health professionals regarding seasonal influenza vaccination was reported by 23 countries (85%). Media campaigns for seasonal influenza are used in 21 countries (78%). Details are presented in table 16.

Table 16. Vaccination promotion and media campaigns. National seasonal influenza vaccination survey in Europe, July 2008 (n=27)

	Country	Total
Information materials developed for the public or health professionals' use		
Specific information exists	AT,BE,CY,DK,FI,FR,DE,GR,HU,IS,IE,IT,LT,NL,NO,PL,SK,SI,ES,SE,MT,PT,UK	23
Specific information does not exist	EE,LV,RO	3
Unknown	CZ	1
Media campaigns for influenza		
Use mass media campaigns	AT,BE,CY,DK,EE,FI,FR,DE,HU,IS,IE,IT,LT,PL,RO,SK,ES,SE,MT,PT,UK	21
Do not use mass media campaigns	GR,LV,NL,NO,SI	5
Unknown	CZ	1
Sponsors of the media campaigns		

National health authority	BE,DK,EE,FI,FR,DE,HU,IS,IE,IT,LT,MT,RO,SK,ES,SE,UK	17
Pharmaceutical sector	AT,BE,FR,DE,IE,LT,PL,MT,SK,PT,UK	11
Public service announcement	CY,DK,EE,FR,HU,MT,SK,PT,PL,UK	10
Missing data	CZ,NL,SI,GR,NO,LV	6

AT - Health insurance;

DK - Private vaccination providers' company;

FR - National Social Security System;

IT - Regional health Authorities.

Future changes

The significant changes on policy of seasonal influenza occurring in the nearest future are specified below:

- FI - There is plans to introduce vaccine to HCW, it will be for free;
- IE - Since 2008, the age for routine vaccination includes everyone 50 years of age and over, but due to resource limitations vaccine is not provided free of charge to individuals <65 years of age unless in risk group;
- GR- Immunise healthy children up to the age of 5 years;
- NL - Introducing 60+; no longer recommendation for furunculosis patients;
- NO -The changes are from the 2009-2010 season; The vaccine will be free of charge for persons belonging to the risk groups;
- PL - Lowering the age at which immunisation is recommended, partial refund of vaccines for at risk groups 08-09;
- IT- annual recommendations are reviewed and eventually updated annually;
- SI- Vaccine free for all risk groups.

Five countries indicated that they would welcome assistance or technical support from ECDC in certain areas, presented in table 17.

Table 17. Assistance or technical support from ECDC. National seasonal influenza vaccination survey in Europe, January 2008 (n=5)

Country	Recommendation
AT	Risk assessments (of situations, ...) assessment advantages/disadvantages of different vaccines on the market,...
CY	Protocol for Surveys of influenza vaccination coverage
CZ	General recommendation for seasonal vaccination; Promotion of seasonal vaccination to increase coverage.
LT	Recommendations, data of surveys etc.
PT	Guidelines on risk groups to vaccinate

Conclusions

1. Seasonal influenza vaccine is recommended:

- Twenty-three (85%) countries have influenza vaccine recommendation for those aged 65 years and older. IS and DE recommend vaccination for those aged 60 years and older, MT and PL recommends vaccination for those aged 55 years and older. AT has a universal vaccination recommendation for all age groups; IE lowered the age for seasonal influenza vaccine to 50 years and over but programme with free vaccine has not been implemented by health service;
- In most countries vaccination is recommended for those working in hospitals (81%), long-term care facilities (89%), and outpatient clinics (78%). Half of MS countries recommend vaccination of poultry workers. Most countries do not have vaccination recommendations relating to essential services (81%; 22/27), families that raise poultry (84%; 22/26), veterinary (67%; 18/27) and military (78%; 21/27) services. Only one country (FR) recommends vaccination of airline workers;
- In all countries people with chronic pulmonary and cardiovascular diseases (100%) are recommended influenza vaccine; in most countries individuals with haematological or metabolic disorders (96%), immunologic disorders with or without HIV/AIDS (93%) and renal diseases (93%) are also recommended vaccine. Approximately one third of countries recommend vaccination of pregnant women.

2. Monitoring influenza vaccine coverage:

- The UK has mechanisms to monitor vaccine coverage for all of these risk groups. Five countries (AT,GR,LV,PL,NO) have no mechanisms for monitoring any risk group and twenty one can monitor some risk groups. Eighteen of twenty one (18/21; 86%) countries have a mechanism to monitor vaccine coverage for people aged 65 years and older. NO monitors vaccine coverage among those over 65 and clinical risk groups together. FI monitors vaccine coverage of children <3 years of age.
- Twenty three countries use different methods (health records or pharmaceutical data, or surveys) for numerator measurement. The most common type of administrative methods used are based on number of people vaccinated (16/26; 61%). Nineteen (19/25; 76%) countries estimate the numerator annually or at the end of influenza season;
- Approximately one-third or more of countries measure denominators in occupational (8/27; 29%) or clinical risk groups (9/27; 33%) and for other group categories (7/27; 26%).

3. Vaccination coverage and number of influenza vaccine doses:

- Are known in twenty two countries (81%) for those aged 65 years and older, measured by administrative methods (range 1.06 - 82.6%). The coverage measured by administrative methods among health care workers was provided by six countries (22%), (range 13.4 - 89.4%). The vaccine coverage measured by administrative methods for clinical risk groups was provided by seven countries (range 32.9 - 71.7%);
- Only four countries (IE,IT,LT,PL; 4/27; 15%) provided vaccine coverage data for sub national level for those over aged 65 years of over or total population. The vaccine coverage varied slightly between regions in IT,IE and PL, however substantial variation exists between regions in LT (2.4 - 10.8%);
- Number of influenza vaccine doses per 10 000 of total population varied greatly between countries (range 304 – 2369 doses per 10 000).

4. Payment and administration for vaccines:

- In almost half of countries vaccine and administration is free for all recipients aged 65 years and older and among those with chronic illness (12/27; 44%);
- In 11 countries (11/27; 41%) vaccine and administration is free for some occupational group recipients;
- In 10 (10/27; 37%) countries vaccine and administration costs are free for some recipients and in 8 (8/27; 30%) countries vaccine and administration costs are paid by all recipients for children category.

5. Promoting vaccination in all countries:

- 85% (23/27) have specific information materials for public or health professionals;
- 78% (21/27) use media campaigns which are sponsored by national health authority or pharmaceutical sector;

6. Future changes:

- Introduce vaccine for HCWs in FI; immunisation of healthy children <5 years in GR; vaccine free for all risk groups in SI; since 2008, the age for routine vaccination includes everyone 50 years of age and over, but due to resource limitations vaccine is not provided free of charge to individuals <65 years of age unless in risk group in IE; introducing 60+ and no longer recommendation for furunculosis patients in NL; the vaccine will be free of charge for persons belonging to the risk groups in NO in 2009/2010

influenza season; lowering the age at which immunisation is recommended, partial refund of vaccines for at risk groups 08-09 in PL.

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Appendices

Appendix 1. Data for sub national level

Table 18. Vaccine coverage on sub national level in countries measured by administrative method. National seasonal influenza vaccination survey in Europe, July 2009 (n=4)

Name of sub national level	Population in the region 2007-2008	Over 65		Total population	
		2007-2008	2008-2009	2007-2008	2008-2009
Ireland*					
HSE-South East	460838	65.8	60.6	N/A**	N/A
HSE-North East	394098	60.5	59.8	N/A	N/A
HSE-Midlands	251664	59.8	59.0	N/A	N/A
HSE-Mid West	251664	64.1	58.4	N/A	N/A
HSE-East	1499705	60.4	58.0	N/A	N/A
HSE-West	414277	60.7	58.0	N/A	N/A
HSE-South	621130	62	57.9	N/A	N/A
HSE-North West	237108	63.4	57.9	N/A	N/A
Poland					
Dolnoslaskie	2879		10.2	-	-
Kujawsko-pomorskie	2065540	8.3	-	-	-
Lubelskie	2168993	8.9	-	-	-
Lubuskie	1008461	8.5	-	-	-
Lodzkie	2560903	9.8	-	-	-
Malopolskie	3274627	8	-	-	-
Mazowieckie	5178480	11.6	-	-	-
Opolskie	1039427	9.8	-	-	-
Podkarpackie	2097281	7.7	-	-	-
Podlaskie	1194529	7.9	-	-	-
Pomorskie	2206600	6.5	-	-	-
Slaskie	4662302	7.6	-	-	-
Swietokrzyskie	1277494	9.1	-	-	-
Warminsko-mazurskie	1426609	10.6	-	-	-
Wielkopolskie	3382189	7.9	-	-	-
Zachodniopomorskie	1692774	12.1	-	-	-
Italy					
Piemonte	4401266	58.9	60.7	17.2	17.9
Valle d'Aosta	125979	61.0	54.5	15.3	14.8
Lombardia	9642406	58.6	61.7	14.7	15.5
PA Bolzano	493910	50.5	47.5	11.2	10.7
PA Trento	513357	64.6	68.0	15.1	16.3
Veneto	4832340	70.3	71.6	18.5	19.3
Friuli Venezia Giulia	1222061	64.4	68.1	17.9	20.7
Liguria	1609822	65.6	65.7	22.5	23.2
Emilia Romagna	4275802	73.6	73.7	23.4	23.9
Toscana	3677048	68.5	69.5	22.3	22.8
Umbria	884450	70.5	74.7	20.5	21.8
Marche	1553063	65.4	66.9	19.7	20.8
Lazio	5561017	68.0	67.9	19.4	19.9
Abruzzo	1323987	72.8	68.4	20.4	19.7
Molise	320838	73.3	72.3	23.3	23.4
Campania	5811390	68.2	72.2	17.4	18.8
Puglia	4076546	68.7	73.8	21.0	22.7
Basilicata	591001	70.7	72.2	20.6	19.4
Calabria	2007707	65.6	69.8	16.5	17.7

Sicilia	5029683	N/A	61.0	N/A	17.7
Sardegna	1665617	39.8	49.6	11.9	14.2
Lithuania					
Vilnius region	-	3.1	6.5	2.4	3.0
Klaipėda region	-	9.4	11.5	4.5	3.9
Panevėžys region	-	10.8	15.0	5.5	5.5
Utena region	-	3.1	6.2	2.1	2.4
Šiauliai region	-	7.1	21.9	3.9	5.8
Telšiai region	-	9.9	16.8	3.9	4.5
Tauragė region	-	6.0	10.7	2.3	3.5
Kaunas region	-	7.3	13.8	6.1	5.5
Marijampolė region	-	2.4	10.9	1.7	3.8
Alytus region	-	7.4	10.7	5.4	5.0

*Provisional data; HSE-Health Service Executive;

**N/A – not applicable

Appendix 2. Questionnaire

National Seasonal Influenza Vaccination survey 2008 conducted by the Venice Project II for ECDC

Please Return Questionnaire by -----, 2009

COUNTRY: _____

GATEKEEPER: _____

NAME OF PERSON WHO FILLS QUESTIONNAIRE (IF DIFFERENT FROM ABOVE):

TITLE: _____

CONTACT EMAIL: _____

CONTACT PHONE NUMBER: _____

GROUPS RECOMMENDED FOR VACCINE

Q1. Have been any changes in influenza vaccine policy since the last survey?

- Yes
- No
- Unknown

Q2. Did your country make any changes in influenza vaccination policy with regard to age groups since the last survey?

- Yes Go to question 3.
- No Go to question 4.
- Unknown

Q3. For which age groups is influenza immunisation routinely recommended for all in the age groups, without other risk indication (check all that apply)?

- 6 months – 1 year
- >1 year – 2 years
- >2 years – 5 years
- >5 years – 18 years
- > 18 – 49 years
- ≥ 50 years
- ≥ 65 years
- None
- Other: From ____ months to ____ months
- Other: From ____ years to ____ years

Q4. Did your country make any changes in influenza vaccination policy with regard to occupational settings since the last survey?

- Yes Go to question 5.
- No Go to questions 6 and 7.
- Unknown

Q5. In which occupational settings is influenza immunisation recommended for workers?

Hospitals

- Recommended No recommendation Recommended against

Long-term care facilities (nursing homes and other chronic-care facilities)

- Recommended No recommendation Recommended against

Out-patient care clinics

- Recommended No recommendation Recommended against

Laboratory staff

- Recommended No recommendation Recommended against

Essential services (police, firemen etc.)

- Recommended No recommendation Recommended against

Veterinary services

- Recommended No recommendation Recommended against

Poultry industry

- Recommended No recommendation Recommended against

Families that raise poultry

- Recommended No recommendation Recommended against

Military

- Recommended No recommendation Recommended against

Airline workers

- Recommended No recommendation Recommended against

None

Other, specify: _____

Q6. Please respond to the new question regarding occupational groups influenza vaccine and whether it is or is not recommended for the following groups:

Laboratory staff

- Recommended No recommendation Recommended against

Airline workers

- Recommended No recommendation Recommended against

Families that raise poultry

- Recommended No recommendation Recommended against

Q7. Did your country make any changes in influenza vaccination policy with regard to underlying medical conditions since the last survey?

Yes Go to question 8.

No Go to question 9.

Unknown

Q8. For persons with which of the following underlying medical conditions is influenza immunisation recommended (without regard to age)?

Chronic pulmonary (including asthma) disease

- Recommended No recommendation Recommended against

Cardiovascular (except hypertension) disease

- Recommended No recommendation Recommended against

Renal disease

- Recommended No recommendation Recommended against

Hepatic disease

- Recommended No recommendation Recommended against

Haematological or metabolic disorders (including diabetes mellitus)

- Recommended No recommendation Recommended against

Immunologic disorders other than HIV/AIDS

- Recommended No recommendation Recommended against

HIV/AIDS

- Recommended No recommendation Recommended against

Long-term aspirin use (in children up to 18 years old)

- Recommended No recommendation Recommended against

Pregnancy

- Recommended No recommendation Recommended against

Any condition (e.g., cognitive dysfunction, spinal cord injuries, seizure disorders, or other neuromuscular disorders) that can compromise respiratory function or the handling of respiratory secretions or that can increase the risk for aspiration

- Recommended No recommendation Recommended against

None

Other, specify: _____

Q9. Did your country make any changes since the last survey in influenza vaccination policy with regard other groups for whom vaccine is now recommended?

- Yes Go to question 10.
 No Go to question 11.
 Unknown

Q10. For which other groups are vaccine recommended? (check all that apply)

Residents of long-term care facilities (nursing homes and other chronic-care facilities)

- Recommended No recommendation Recommended against

Household contacts of persons for whom vaccination is recommended

- Recommended No recommendation Recommended against

None

Other, specify: _____

MONITORING VACCINE COVERAGE

Q11. Have there been any changes in your country in relation to mechanisms for monitoring influenza vaccination coverage since the last survey?

- Yes Go to question 12.
 No Go to question 13.
 Unknown

Q12. For which groups for whom vaccination is recommended do you have a mechanism for monitoring influenza vaccination coverage?

- All
 None
 Some

if **Some**, please specify groups for which you do have mechanism to monitor uptake in the following table (answer yes or no for each sub-group within each category):

Age group	Yes/No
months – 1 year	
>1 year – 2 years	
>2 years – 5 years	
>5 years – 18 years	
> 18 – 49 years	

≥ 50 years	
≥ 65 years	
Other, specify:	
Other, specify:	
Other, specify:	
Occupational setting	Yes/No
Hospitals	
Laboratory staff	
Families that raise poultry	
Long-term care facilities (nursing homes and other chronic-care facilities)	
Out-patient care clinics	
Essential services (police, firemen etc.)	
Veterinary services	
Poultry industry	
Military	
Airline workers	
Other, specify:	
Other, specify:	
Other, specify:	
Medical condition	Yes/No
Chronic pulmonary (including asthma) disease	
Cardiovascular (except hypertension) disease	
Renal disease	
Hepatic disease	
Haematological or metabolic disorders (including diabetes mellitus)	
Immunologic disorders other than HIV/AIDS	
HIV/AIDS	
Long-term aspirin use (in children up to 18 years old)	
Pregnancy	
Any condition	
Other, specify:	
Other, specify:	
Other, specify:	
Other groups	
Residents of long-term care facilities (nursing homes and other chronic-care facilities)	
Household contacts of persons for whom vaccination is recommended	

Q13. Please respond to the new question regarding occupational groups for influenza vaccine and do you have a mechanism for monitoring influenza vaccination coverage for the following groups?

Laboratory staff

- Yes
- No
- Unknown

Airline workers

- Yes
- No
- Unknown

Families that raise poultry

- Yes
- No
- Unknown

Q14. Does your country measure vaccine coverage among the entire population (without regard to risk)?

- Yes
- No
- Unknown

Check here if this is a change from last survey

Q15. Have there been any changes in your country in relation to numerator assessment for influenza vaccination coverage since the last survey?

- Yes Go to questions 16 and 18.
- No Go to question 17.
- Unknown

Q16. Which of the following method/s does your country use to measure the numerator in assessing influenza vaccination coverage? (you can tick more than one)

Health record data

- Medical records (excluding computerised records)
Last conducted: MM/YYYY Never
- Computerised medical records (not specific to immunisation)
Last conducted: MM/YYYY Never
- Immunisation registry (routinely collected information)
Last conducted: MM/YYYY Never
- Immunisation survey (active collection of immunisation data)
Last conducted: MM/YYYY Never

Survey type

- Household survey, in person
Last conducted: MM/YYYY Never
- Individual interview, in person
Last conducted: MM/YYYY Never
- Telephone survey
Last conducted: MM/YYYY Never
- Mail survey
Last conducted: MM/YYYY Never

Pharmaceutical data

- Pharmaceutical distribution data (from industry)
Last conducted: MM/YYYY Never
- Pharmaceutical distribution data (from national purchaser)
Last conducted: MM/YYYY Never
- Pharmaceutical sales data (from private pharmacies)
Last conducted: MM/YYYY Never
- Prescription data
Last conducted: MM/YYYY Never

Other, specify: _____

Please respond to the new sub question regarding numerator assessment:

Q17. Does your country use prescription data to measure the numerator assessing influenza vaccine coverage:

- Yes
- No
- Unknown

If yes, please respond when this assessment was last conducted:

Last conducted: MM/YYYY Never

Q18. If administrative method used please indicate which of the following are used to measure the numerator in assessing influenza vaccine coverage (you can tick more than one)

- Aggregate collection of number of vaccines administered
- Aggregate collection of number of vaccines distributed (industry)
- Aggregate collection of number of vaccines distributed (national purchaser)
- Aggregate collection of number of vaccines sales (private pharmacies)
- Payment/ reimbursement claims
- Number of people vaccinated
- Other

If other, specify: _____

Q19. Have there been any changes in your country in relation to interval at which numerator data are collected for influenza vaccination coverage since the last survey?

- Yes Go to question 20.
- No Go to question 21.
- Unknown

Q20. What is the most frequent interval at which numerator data for assessing influenza vaccine coverage is collected?

- Never
- Monthly
- Every two months
- Every three months
- Once, at the end of flu season
- Annually, specific date/time of year _____
- Other, specify: _____

Q21. Have there been any changes in your country in relation to assessment of populations/denominators data for influenza vaccination coverage since the last survey?

- Yes Go to question 22.
- No Go to question 23.
- Unknown

Q22. Which of the following populations/denominators data does your country have to assess vaccination coverage?

Age group	Yes/No
months – 1 year	
>1 year – 2 years	
>2 years – 5 years	
>5 years – 18 years	
> 18 – 49 years	
≥ 50 years	
≥ 65 years	
Other, specify:	
Other, specify:	
Occupation groups	Yes/No
Occupation group data available:	
If yes, specify below:	
Hospital personnel	
Long-term care facilities personnel (nursing homes and other chronic-care facilities) personnel	
Outpatient care clinics personnel	
Essential services (police, firemen etc.) personnel	
Veterinary services personnel	
Poultry industry personnel	
Military personnel	

Laboratory staff	
Families that raise poultry	
Occupation group population data, other specify:	
Occupation group population data, other specify:	
Occupation group population data, other specify:	
Occupation group population data, other specify:	
Occupation group population data, other specify:	
Airline workers	
Medical condition categories	Yes/No
Medical category data available:	
If yes, specify below:	
Chronic pulmonary (including asthma) disease patients	
Cardiovascular (except hypertension) disease patients	
Renal disease patients	
Hepatic disease patients	
Hematological or metabolic disorders (including diabetes mellitus) patients	
Immunologic disorders other than HIV/AIDS patients	
HIV/AIDS patients	
Long-term aspirin users (in children up to 18 years old)	
Pregnant women	
Patients with any condition (e.g., cognitive dysfunction, spinal cord injuries, seizure disorders, or other neuromuscular disorders) that can compromise respiratory function or the handling of respiratory secretions or that can increase the risk for aspiration	
Medical category population other, specify:	
Other group categories	Yes/No
Other group data available:	
If yes, specify below:	
Population of <u>residents</u> of long-term care facilities (nursing homes and other chronic-care facilities)	
Number of household <u>contacts</u> of persons for whom vaccination is recommended	
Population other category, specify:	

Q23. Please respond to the new question regarding occupational groups for influenza vaccine and populations/denominators data does your country have to assess vaccination coverage for the following groups?

Laboratory staff

- Yes
- No
- Unknown

Airline workers

- Yes
- No
- Unknown

Families that raise poultry

- Yes
- No
- Unknown

VACCINATION COVERAGE RESULTS

Please indicate vaccination **COVERAGE DATA measured by administrative method** for the most recent season for which there are data available for whole country (please do not provide the same data if they were provided conducting last year's survey)

Q24. What was the vaccination coverage in the ≥ 65 year age group?

Percentage _____
Season _____
 Unknown

Q25. What was the vaccination coverage in the health care workers?

Percentage _____
Season _____
 Unknown

Q26. What was the vaccination coverage in the clinical risk groups?

Percentage _____
Season _____
 Unknown

Q27. What was the vaccination coverage among total population?

Percentage _____
Season _____
 Unknown

Please indicate vaccination **COVERAGE DATA measured by survey methods** for the most recent season for which there are data available for whole country (please do not provide the same data if they were provided conducting last year's survey)

Q28. What was the vaccination coverage in the ≥ 65 year age group?

Percentage _____
Season _____
 Unknown

Q29. What was the vaccination coverage in the health care workers?

Percentage _____
Season _____
 Unknown

Q30. What was the vaccination coverage in the clinical risk groups?

Percentage _____
Season _____
 Unknown

Q31. What was the vaccination coverage among total population?

Percentage _____
Season _____
 Unknown

The following questions on influenza vaccine uptake are related to sub national data in your country:

Q41. Have there been any changes in relation to national government subsidises for influenza vaccine since the last survey?

- Yes Go to question 42.
- No Go to question 43.
- Unknown

Q42. Does the national government subsidise some, or all, of the cost of vaccine and administration?

- Yes
- No

Q43. Have there been any changes in relation to vaccine payment and administration since the last survey?

- Yes Go to question 44.
- No Go to question 45.

Q44. For each of the following groups what, if any is the cost to persons being vaccinated (drop down menu with options)?

Elderly, cost category: _____

- Vaccine and administration free for all recipients
- Vaccine and administration free for some recipients
- Partial subsidy for vaccine and administration (below cost to recipient) for all recipients
- Partial subsidy for vaccine and administration (below cost to recipient) for some recipients
- Full vaccine and administration cost paid by all recipients
- Full vaccine and administration cost paid by some recipients

Chronic illness, cost category: _____

- Vaccine and administration free for all recipients
- Vaccine and administration free for some recipients
- Partial subsidy for vaccine and administration (below cost to recipient) for all recipients
- Partial subsidy for vaccine and administration (below cost to recipient) for some recipients
- Full vaccine and administration cost paid by all recipients
- Full vaccine and administration cost paid by some recipients

Occupational groups, cost category: _____

- Vaccine and administration free for all recipients
- Vaccine and administration free for some recipients
- Partial subsidy for vaccine and administration (below cost to recipient) for all recipients
- Partial subsidy for vaccine and administration (below cost to recipient) for some recipients
- Full vaccine and administration cost paid by all recipients
- Full vaccine and administration cost paid by some recipients

Children, cost category: _____

- Vaccine and administration free for all recipients
- Vaccine and administration free for some recipients
- Partial subsidy for vaccine and administration (below cost to recipient) for all recipients
- Partial subsidy for vaccine and administration (below cost to recipient) for some recipients

- Full vaccine and administration cost paid by all recipients
- Full vaccine and administration cost paid by some recipients

Other, cost category: _____

- Vaccine and administration free for all recipients
- Vaccine and administration free for some recipients
- Partial subsidy for vaccine and administration (below cost to recipient) for all recipients
- Partial subsidy for vaccine and administration (below cost to recipient) for some recipients
- Full vaccine and administration cost paid by all recipients
- Full vaccine and administration cost paid by some recipients

VACCINATION SITES

Q45. Have there been any changes to the principal outlets for influenza vaccination since the last survey?

- Yes Go to question 46.
- No Go to question 47.
- Unknown

Q46. What at the principal outlets for influenza vaccination?

- Primary health care settings
- Hospital setting
- Outpatient care clinics
- Occupational health services
- Other _____

PROMOTING OF VACCINATION

Q47. Does your country prepare specific information materials for the public or health professionals about influenza and vaccination (eg. leaflets, posters)?

- Yes
- No
- Unknown
- Check here if this is a change from last survey

Q48. Does your country use mass media campaigns (such as radio, TV or news papers) before and/or during flu season?

- Yes
- No
- Unknown
- Check here if this is a change from last survey

Q49. If yes, who sponsors the media campaigns? (You can tick more than one)

- National health authority
- Pharmaceutical sector
- Public service announcement*
- Unknown
- Other _____
- Check here if this is a change from last survey

* Advertisement content and production is provided by government or industry, including national health authority, with air time (radio, TV) or space (newspapers, magazines) provided by media company at no charge.

FUTURE CHANGES

Q50. Are there significant policy or operational changes occurring in the near future (e.g., lowering the age at which immunisation is recommended for older persons, introducing immunisation of very young children etc.)?

Yes

2008-2009 season, specify: _____

2009-2010 season, specify: _____

No

Q51. Are there any areas of policy or technical changes that will be under review in the coming 12 months (to the end of 2009)?

Yes

Specify: _____

Specify: _____

No

Q52. Are there any areas where you would wish assistance or technical support from ECDC?

Yes

Specify: _____

Specify: _____

No

IMPLEMENTATION INFLUENZA POLICY CHANGES

Q53. This question refers only for those countries who mentioned policy changes for year 2008 (for Q51 AND Q52 questions) conducting last survey:

Q54. Did your country implement influenza vaccination policy changes that were mentioned in last year's survey (as applicable)?

Yes

No

Partly

If NO or partly, please, specify, why it was not implemented: _____

Thank you very much for your time. – if you have enquiries please contact Jolita Mereckiene (jolita.mereckiene@hse.ie)

Appendix 3. Accompanying letter 1.

Sent on Behalf of Work Package 4 of VENICE II

July 6th 2009

Dear VENICE Project Gatekeepers and Contact points,

VENICE II Project has been asked by the European Centre for Disease Prevention and Control (ECDC) to survey member states regarding National Seasonal Influenza vaccination for the 2007/2008 influenza season to determine what changes have occurred since the last survey, if any.

Our survey tool – web based questionnaire - remains mainly the same asking you if there were any changes since the last survey in your countries immunisation policy and showing you the data you filled in last year. You don't need to make any changes if your answers are the same as for last year's survey, but please make sure that you will make changes if there are any changes in relation to your Seasonal Influenza policy. There are a few new questions which you will see clearly marked in red when filling in the questionnaire. We are also asking questions regarding vaccine coverage for the most recent influenza season data you have, including sub national coverage in your country.

The online questionnaire consists of two parts: first – the main survey, questions remains mainly the same as for the last year's survey; the second part – we request data for sub national level in your country. The sub-national part of the questionnaire will be activated by answering 'Yes' at question number 19. You have to identify how many regions there are in your country and specify the name of a responder for the regional part, chosen from a list of registered VENICE users associated to a specific country. When you finish the first part of survey and save data, the second part for data entry on sub national level with specified regions will appear on screen and you can enter vaccine coverage data for regions. You can choose up to 30 regions per country. If you want to assign the compilation of some regional information to a person who is not among the system users on VENICE website, please contact Luca Demattè by email l.dematte@cineca.it providing him the name, surname and a valid email address of each new person before filling the web based questionnaire. Then this person will be provided with his username and password.

For saving the answers you have two possibilities: by clicking on 'Save' you are telling that your work is not yet finished but you do not want to lose the data, by clicking on 'Send' you declare that your survey is completed.

From that moment you cannot modify the survey anymore: if you realise that some mistake has been made please contact Luca Demattè by email provided above.

We also advise you to print the questionnaire with the answers to the last years' survey. In particular this is useful if several people are working with your questionnaire. Please also note that when you are filling in the questionnaire there is some delay before the tick sign appears in the answer box.

We kindly ask you to fill in the web based questionnaire on VENICE website **by August 7th 2009**.

You will reach the questionnaire following these steps:

- 1) enter the VENICE website <http://venice.cineca.org>
- 2) enter the "members area" and you will here be requested to insert your user-id and password
- 3) in the members area click on the page dedicated to the surveys "survey"
- 4) click on "survey management"
- 5) in the survey management select INF and there you will find the questionnaire for your country.

If you have any questions, please contact Suzanne Cotter or Jolita Mereckiene by e-mail: suzanne.cotter@hse.ie or jolita.mereckiene@hse.ie .

Thank you in advance for your participation.

Yours sincerely,
Dr. Darina O'Flanagan
VENICE II Project

Leader of Work Package 4
Health Protection Surveillance Centre
25-27 Middle Gardiner Street
Dublin 1
Ireland

Appendix 4. Accompanying letter 2.

August 13th 2009

Dear VENICE II Project Gatekeepers and Contact points,

The VENICE II project survey National **seasonal influenza** vaccination for the 2007/2008 influenza season in Europe is on-going.
I would like kindly to remind gatekeepers of those countries who have not yet completed the questionnaire to do so as soon as possible. The questionnaire you can find and access on the VENICE website (<http://venice.cineca.org>) using your username and password.

Some countries identified some technical problems when filling in the questionnaire: please remember to save often like in any other software in order not to lose the data. Furthermore CINECA have recommended that gatekeepers have to SAVE and then SEND the questionnaire, otherwise the questionnaire is considered not completed.

If you have any problems or receive an error message when trying to save partial data, please contact Luca Demattè AND Chiara Dellacasa by email venice.support@cinca.it to solve these problems.

Some countries have asked us we are collecting data for the 2007/2008 influenza season rather than for the most recent season of 2008/2009.

Our experience from last year's survey was that many countries did not have timely data and were unlikely to have the most recent season's data available within the time frame of the survey. In order to make comparison between countries for the same time period we decided to go with the time when most, if not all, countries would have this data.

However, if you can provide us with data for the seasonal influenza 2008/2009 season for whole country and sub regional level, please send an email to us at this point (since there is no space for 2008/2009 data in the VENICE survey on line) by filling in the tables provided in attached excel file. We will include this data in the final report.

We would **kindly ask all gatekeepers or contact points** to complete the questionnaire **by Monday 31st of August**. We would be very grateful if you would be able to respond by this deadline.

Please contact me if you will have any difficulties by email: jolita.mereckiene@hse.ie

Thank you for your cooperation and participation in this study.

Yours sincerely,
Jolita Mereckiene
VENICE II Project, WP4
Health Protection Surveillance Centre
25-27 Middle Gardiner Street
Dublin 1- Ireland

Appendix 5. Accompanying letter 3.

September 10th 2009

Dear VENICE II Project Gatekeepers,

The data collection for survey on National **seasonal influenza** vaccination for the 2007/2008 influenza season in Europe is going to the end. Most countries completed questionnaire and we are ready to start data analysis.

However we miss data from your countries. I would appreciate if you would be able to complete the questionnaire as soon as possible as ECDC wish to know and have the results of the survey. The questionnaire you can find and access on the VENICE website (<http://venice.cineca.org>) using your username and password. Please let me know if I should contact and request this information from other person than you.

Please complete the questionnaire **by Monday 14th of September**. I would be very grateful if you would be able to respond by this last deadline.

Please contact me if you have any questions by email: jolita.mereckiene@hse.ie

Thank you for your cooperation.

Kind regards,
Jolita Mereckiene

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