



Influenza Surveillance Country, Territory and Area Profiles 2019

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Data

The data in these profiles were submitted by the country, territory or area during the period July 2018 to January 2019, with the exception of data from Cyprus and Kosovo* (in accordance with United Nations Security Council Resolution 1244 [1999]), which were submitted during 2017. The data here are presented unedited.

Abbreviations

ARI	Acute respiratory infection
ECDC	European Centre for Disease Prevention and Control
GP	General practitioner/general practice
HDU	High dependency unit
HMO	Health maintenance organization (Israel)
ICD	International classification of diseases
ICPC	International Classification of Primary Care
ICU	Intensive care unit
ILI	Influenza-like illness
MEM	Moving epidemic method
NHS	National Health Service (United Kingdom)
NIC	National Influenza Centre
PAHO	Pan American Health Organization
PCR	Polymerase chain reaction
PHE	Public Health England
RSV	Respiratory syncytial virus
SARI	Severe acute respiratory infection
WHO	World Health Organization

* For the purposes of this publication, all references to “Kosovo” should be understood/read as “Kosovo (in accordance with Security Council resolution 1244 (1999))”.

Notes

- I. These profiles include only details of national surveillance systems which provide data to The European Surveillance System (TESSy) and used in the drafting of the joint European Centre for Disease Prevention and Control (ECDC)–WHO Regional Office for Europe influenza bulletin, *Flu News Europe* (<https://flunewseurope.org/>).
- II. Mid-year population estimates are based on 2016 data, according to the WHO Regional Office for Europe’s European Health for All database (<http://data.euro.who.int/hfadb>).
- III. Income group is based on the June 2018 World Bank list of economies (<http://data.worldbank.org/about/country-and-lending-groups>).
- IV. The type of surveillance can be defined as: 1. sentinel; 2. universal; or 3. non-sentinel. (http://www.euro.who.int/__data/assets/pdf_file/0020/90443/E92738.pdf?ua=1)
 1. A **sentinel** surveillance system is formed by one or more designated health care facilities or providers that routinely and consistently collect epidemiological information from patients presenting with an illness consistent with a specified case definition. Representative clinical specimens are collected from all or a subset of patients according to a randomized/standardized sampling protocol. Sentinel surveillance systems provide an efficient way to obtain high-quality data on relatively common conditions from a manageable number of locations. Each sentinel site should include facilities that together represent the population under surveillance.
 2. A **universal** surveillance system is formed by all designated health care facilities or providers in a country, territory or area. This generally includes reporting of all clinician-defined “ARI” and is part of the national disease surveillance systems of several Member States in the WHO European Region. These universal systems provide subnational resolution of clinician-reported respiratory disease activity.

The most common **case definitions** can be found in the table below:

ILI	ECDC	Sudden onset of symptoms <i>and</i> at least one of the following four systemic symptoms: fever or feverishness, malaise, headache, myalgia <i>and</i> at least one of the following three respiratory symptoms: cough, sore throat or shortness of breath.
	WHO <2011	Sudden onset of fever >38 C° AND cough OR sore throat in the absence of other diagnosis.
	WHO 2011	An acute respiratory illness with onset during the last 7 days with, measured temperature ≥38°C, AND cough.
	WHO 2014	An acute respiratory infection with: measured fever of ≥38 C° and cough; with onset within the last 10 days.
ARI	ECDC, WHO	Sudden/acute onset of at least one of the following four respiratory symptoms: cough, sore throat, shortness of breath, coryza; and a clinician’s judgement that the illness is due to an infection.
SARI	WHO <2011	Onset of the following symptoms ≤7 days prior to hospital admission: Fever >38°C AND cough OR sore throat AND shortness of breath or difficulty in breathing. <i>For children aged <5 years the IMCI case definition for pneumonia and severe pneumonia is applied.*</i>
	WHO 2011	An acute respiratory illness with onset during the previous 7 days requiring overnight hospitalization that includes: history of fever or measured fever of ≥38°C, AND cough, AND shortness of breath or difficulty breathing.
	WHO 2014	An acute respiratory infection with: history of fever or measured fever of ≥38 C°; and cough; with onset within the last 10 days; and requires hospitalization.

**Pneumonia: cough OR difficulty in breathing AND breathing faster than 40 breaths/minute (12 – 59 months); breathing faster than 50 breaths/minute (2 – 11 months); Severe pneumonia: cough OR difficulty in breathing AND any of the following general severe signs: unable to drink or breastfeed OR vomits everything OR convulsions OR lethargy or unconsciousness OR chest in drawing or stridor in a calm child.*

Sampling strategies

- A. Systematic sampling: samples are collected in a systematic way. This includes:
 - Interval sampling – e.g. every 5th patient who meets the case definition is selected for testing and data collection.
 - Alternate day sampling – e.g. select all patients who meet the case definition presenting to a facility on a certain day or days of the week.
- B. Convenience sampling: this is also called ad hoc sampling and does not adhere to a pre-determined system – e.g. 5 samples per week or the first 2 cases that meet the case definition are sampled.
- C. All cases: samples are collected from all cases that meet the case definition.

Albania

Total population: 2,903,700

Income group: upper middle

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.			Integrated clinical and virological.	Integrated clinical and virological.				Virological.
Reporting period	Week 40-20.			Year-round.	Year-round.				Year-round.
Population covered (%)	6.0%			100.0%	62.0%				38.0%
Type of health facilities/hospitals	General practice, paediatric practice, polyclinic.			General practice, paediatric practices, polyclinic, emergency department.	8 regional hospitals, 2 university hospital centres (paediatric hospital, infectious diseases hospital), 1 lung hospital.				District hospitals.
Number of health facilities/hospitals	2 facilities.			All facilities.	11 hospitals.				27 hospitals.
Case definition used	WHO 2014.			ECDC, WHO.	WHO 2014.				WHO 2014.

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Description of national case definition									
Year introduced	2009			1999	2009				2009
Epidemic threshold	No.			Yes.	No.				No.
Sampling strategy methodology	Systematic sampling.			Convenience sampling.	All cases.				Convenience sampling.
Sampling strategy	Sampling is performed in 2 polyclinics in Tirana. The first 5 patients (on Tuesdays and Thursdays) are sampled at each polyclinic. Sampling of both paediatric and adult patients occurs.			Sampling occurs when there is an increase in cases in different districts or age groups and in outbreaks.	All SARI cases are sampled at all times (24hrs/7 days a week).				SARI cases.

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Armenia

Total population: 3,026,048

Income group: upper middle

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.			Integrated clinical and virological.	Integrated clinical and virological.				Virological.
Reporting period	Year-round.			Year-round.	Year-round.				Year-round.
Population covered (%)	Not available.			100.0%	Not available.				Not available.
Type of health facilities/hospitals	Polyclinic.			General practice, polyclinic.	Intensive care unit, general/internal medicine, paediatric medicine, mother care institute.				General practice, polyclinic.
Number of health facilities/hospitals	5 facilities.			All facilities.	7 hospitals.				All health facilities.
Case definition used	WHO 2014.			ECDC, WHO.	WHO 2014.				Laboratory-confirmed influenza.

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Description of national case definition	WHO 2014, including "history" of fever within last 10 days.								
Year introduced	2010			1990	2010				2009
Epidemic threshold	No.			Yes.	No.				No.
Sampling strategy methodology	Systematic sampling.			Convenience sampling.	Systematic sampling.				Convenience sampling.
Sampling strategy	There is a systematic sampling strategy that differs in each facility. It is random, so all age groups are represented.			A small number of ARI cases are sampled and tested for influenza (2 per week).	There is a systematic sampling strategy that differs in each facility. It is random, so all age groups are represented.				

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Austria

Total population: 8,569,633

Income group: high

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.								Virological.
Reporting period	Week 40-20.								Week 40-20.
Population covered (%)	1.0%								Not available.
Type of health facilities/hospitals	General practice, paediatric practice.								Paediatricians, paediatric clinic, infectious disease hospital outpatient department and infectious disease hospital department.
Number of health facilities/hospitals	85 facilities.								Not available.
Case definition used	ECDC.								ECDC.

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Description of national case definition									
Year introduced	2000/2001.								1952
Epidemic threshold	Yes.								No.
Sampling strategy methodology	Convenience sampling.								
Sampling strategy	Each sentinel site collects 3-5 specimens per week.								No sampling strategy. Physicians take nasopharyngeal swabs for diagnostic purposes.

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Azerbaijan

Total population: 9,868,447

Income group: upper middle

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.			Clinical.	Integrated clinical and virological.		Integrated clinical and virological.		
Reporting period	Year-round.				Year-round.				
Population covered (%)	20.0%				2.9%		23.0%		
Type of health facilities/hospitals	Paediatric practice, polyclinic.				Infectious disease ward, pulmonary ward.		Not available.		
Number of health facilities/hospitals	16 facilities.				2 hospitals.		18 facilities.		
Case definition used	WHO <2011.				WHO <2011.				
Description of national case definition									
Year introduced	2009				2009				

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Epidemic threshold	Yes.				No.				
Sampling strategy methodology	Systematic sampling.				Systematic sampling.				
Sampling strategy	Every 3rd patient is sampled. All age groups are sampled.				Every 3rd patient is sampled. All age groups are sampled.				

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Belarus

Total population: 9,481,521

Income group: upper middle

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.		Integrated clinical and virological.		Integrated clinical and virological.				Virological.
Reporting period	Year-round.		Year-round.		Year-round.				Year-round.
Population covered (%)	5.2%		50.0%		30.0%				100.0%
Type of health facilities/hospitals	Paediatric practice, polyclinic.		General practice, paediatric practice, polyclinic, emergency department, infectious disease department.		Intensive care unit, general therapeutic, paediatric, obstetrics and gynecology, infectious disease, pulmonary hospitals/wards.				Intensive care unit, general therapeutic, paediatric, obstetrics and gynecology, infectious disease, pulmonary hospitals/wards.
Number of health facilities/hospitals	13 facilities.		189 facilities.		11 hospitals.				All facilities.

Case definition used	WHO 2014.		ECDC, WHO.		WHO 2014.				WHO 2014.
Description of national case definition									
Year introduced	2010		2010		2010				2010
Epidemic threshold	Yes.		Yes.		No.				No.
Sampling strategy methodology	Convenience sampling.		Convenience sampling.		Convenience sampling.				
Sampling strategy	In an epidemic period, 10 specimens are collected each week by age group in each site. In a non-epidemic period, 10 specimens are collected every second week by each age group in each site.		In an epidemic period, 10 specimens are collected each week by age group in each site. In a non-epidemic period, 10 specimens are collected every second week by each age group in each site.		In an epidemic period, 10 specimens are collected each week by age group in each site. In a non-epidemic period, 10 specimens are collected every second week by each age group in each site.				According to the decision of the doctor.

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Belgium

Total population: 11,371,928

Income group: high

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.		Clinical.		Integrated clinical and virological.				Integrated clinical and virological.
Reporting period	Clinical: year-round; Virological: week 40-20.		Year-round.		Most hospitals will start to report as soon as the ILI incidence of GP visits is increasing.				Year-round.
Population covered (%)	1.3%		1.3%		Not available.				Not available.
Type of health facilities/hospitals	General practice.		General practice.		General hospitals (all wards).				General hospitals (all wards).
Number of health facilities/hospitals	105 facilities.		105 facilities.		6 hospitals.				117 hospitals.
Case definition used	National.		National.		National.				

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Description of national case definition	Sudden onset of fever with respiratory symptoms and general symptoms.		Acute respiratory infection of the upper, medium or lower respiratory tract (including common cold, rhinitis, (rhino)pharyngitis, angina, sinusitis, otitis, laryngitis, (laryngo)- tracheitis, bronchitis, bronchiolitis and (bronco)pneumonia) without influenza syndrome.		Adapted from the case definition proposed in WHO guidance: an acute respiratory illness with onset within the last 10 days of history of fever, or measured fever of $\geq 38^{\circ}\text{C}$, and cough or dyspnoea (shortness of breath or difficulty to breath) and requiring hospitalization (24h or more).				Samples from patients presenting with severe influenza in particular specific conditions: ARDS (acute respiratory distress syndrome), ECMO (extracorporeal membrane oxygenation), death, suspicion of antiviral resistance, returning from abroad or in case of outbreaks.
Year introduced	1985		1985		2011-2012.				2011-2012.
Epidemic threshold	Yes.		No.		No.				No.
Sampling strategy methodology	Convenience sampling.				All cases.				Convenience sampling.

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Sampling strategy	The first 2 ILI cases in a week seen by the GP.		No samples collected.		All hospitalized patients meeting the case definition are sampled.				Only cases from patients with severe suspected influenza.

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Bosnia and Herzegovina

Total population: 3,802,134

Income group: upper middle

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.	Clinical.		Clinical.	Integrated clinical and virological.	Clinical.			
Reporting period	Week 40-20.	Week 40-20.		Week 40-20.	Week 40-20.	Week 40-20.			
Population covered (%)	2% in the Republic of Srpska, less than 1% in Federation B&H.	100.0%		100.0%		100.0%			
Type of health facilities/hospitals	Primary health care centre.	General practice, paediatric practice, polyclinic, emergency department.		General practice, paediatric practice, polyclinic, emergency department.	Federation of Bosnia and Herzegovina: University clinical centre; general hospital; Republic of Srpska: University clinical centre Republic of Srpska (ICU, pulmonology, paediatric and infectious diseases clinic).	University clinical centre, general hospitals (ICU, paediatric wards, infectious disease wards, respiratory disease wards).			

Number of health facilities/hospitals	1 facility in the Federation of Bosnia and Herzegovina; 1 facility in Republic of Srpska (Primary Health Care Centre Banja Luka).	135 facilities: (52 primary health care facilities in the Republic of Srpska, 79 facilities in the Federation of Bosnia and Herzegovina and 4 facilities in Brcko district of Bosnia and Herzegovina).		135 facilities: 52 primary health care facilities in the Republic of Srpska, 79 facilities in the Federation of Bosnia and Herzegovina and 4 facilities in Brcko district of Bosnia and Herzegovina).	Federation of Bosnia and Herzegovina: 3 facilities (2 University clinical centres and 1 general hospital); RS: 1 facility.	29 hospitals and 4 clinical centres: (9 hospitals and 1 clinical centre in the Republic of Srpska, 19 hospitals and 3 clinical centre in the Federation of Bosnia and Herzegovina and 1 hospital in Brcko district of Bosnia and Herzegovina).			
Case definition used	WHO 2011.	WHO 2011.		ECDC, WHO.	WHO 2014.	WHO 2014.			
Description of national case definition									

Year introduced	2014	2012 (Republic of Srpska) 2009 (Federation of Bosnia and Herzegovina and Brcko district of Bosnia and Herzegovina).		2012 (Republic of Srpska) 2009 (Federation of Bosnia and Herzegovina and Brcko district of Bosnia and Herzegovina).	2014	2013 (Republic of Srpska) 2009 (Federation of Bosnia and Herzegovina and Brcko district of Bosnia and Herzegovina).			
Epidemic threshold		Yes.		No.	No.	No.			
Sampling strategy methodology	Systematic sampling.				All cases.				

Sampling strategy	Federation of Bosnia and Herzegovina: samples are collected from the first 3 ILI patients meeting the case definition on the Monday. All age group are included in the sampling. Republic of Srpska: 2 samples are collected per week: the first paediatric and first adult sample.	No samples collected.		No samples collected.	Federation of Bosnia and Herzegovina: SARI cases are sampled at all times (24 hrs/7 days a week) but may depend on the availability and capacity of the reference laboratory. Republic of Srpska: All SARI cases in that facility (from the selected departments) are sampled.				
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See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance.

Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Bulgaria

Total population: 7,097,796

Income group: upper middle

System characteristics	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system			Integrated clinical and virological.						Virological.
Reporting period			Year-round.						Year-round.
Population covered (%)			5.4%						
Type of health facilities/hospitals			General practices.						General practices, polyclinics, intensive care/critical care units, infectious disease hospital and wards, paediatric hospital and wards, pulmonary wards, and general hospitals.

Number of health facilities/hospitals			218 facilities.						40 hospitals.
Case definition used			ECDC, WHO.						ECDC - ILI and ARI case definitions.
Description of national case definition									
Year introduced			2001						1958
Epidemic threshold			Yes.						No.
Sampling strategy methodology			Convenience sampling.						

Sampling strategy			10-20 cases from each of the 28 regions of the country that meet the case definition are sampled. All age groups are included in the sampling. Information available: age, sex, geographical information, diagnosis, data of sampling. The sampling procedure does not differ between the start and the peak of the season. All cases are included in the sampling strategy.						According to the decision of the doctors. All age groups are included in the sampling. Information available: age, sex, geographical information, diagnosis, data of sampling. The sampling procedure does not differ between the start and the peak of the season. All cases are included in the sampling strategy.
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See **Notes** for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Croatia

Total population: 4,225,001

Income group: high

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system		Integrated clinical and virological.							
Reporting period		Week 40-20.							
Population covered (%)		100.0%							
Type of health facilities/hospitals		General practice and paediatric practice.							
Number of health facilities/hospitals		Data from around 2570 health care facilities within primary care are collected by 21 county epidemiological units and sent to the national level (CIPH).							
Case definition used		ECDC.							

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Description of national case definition									
Year introduced		1975							
Epidemic threshold		No.							
Sampling strategy methodology		Convenience sampling.							
Sampling strategy		Patients are sampled based on the GP's or epidemiologist's decision. All age groups are included. Most samples are collected at the start and during the peak of the season.							

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Cyprus

Total population: 843,165

Income group: high

Data in the table is from 2017

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.		Clinical.					Integrated clinical and virological.	Virological.
Reporting period	Week 40-20.		Week 40-20.					Week 40-20.	Week 40-20.
Population covered (%)								90.0%	>80%.
Type of health facilities/hospitals	Paediatric outpatient department in public hospitals; adult outpatient department in public hospitals; offices of primary health care paediatrician and adult-care physicians practicing in the private sector.		Paediatric outpatient department in public hospitals; adult outpatient department in public hospitals; offices of primary health care paediatrician and adult-care physicians practicing in the private sector.					Nearly all hospitals in the private and public sectors.	Public hospitals and Public Health Centres.

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Number of health facilities/hospitals	Clinical: 55 facilities; Virological: 10 public health physicians collect specimens for influenza diagnosis.		55 facilities.					9 hospitals.	
Case definition used	National.		National.						
Description of national case definition	Sudden appearance of fever >39°C for at least 2 days AND respiratory symptoms, malaise, myalgia, headache.							Severe acute respiratory illness requiring hospitalization including ICU admissions with confirmed virological specimen for influenza.	
Year introduced	2003		2003					2013	
Epidemic threshold	No.		No.					No.	
Sampling strategy methodology	Convenience sampling.								

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Sampling strategy	5-7 specimens are collected from each site per week.								

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Czech Republic

Total population: 10,548,058

Income group: high

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.		Integrated clinical and virological.			Integrated clinical and virological.			Virological.
Reporting period	Clinical: year-round; Virological: week 40-20.		Clinical: year-round; Virological: week 40-20.			Year-round.			
Population covered (%)	~50%		~50%			~100%			
Type of health facilities/hospitals	General practice, paediatric practice.		General practice, paediatric practice.			All ICUs.			
Number of health facilities/hospitals	3570 facilities.		3570 facilities.						
Case definition used	ECDC.		ECDC, WHO.			WHO 2014.			ECDC.
Description of national case definition						WHO 2014 (with modification for necessity of hospitalization at ICU).			

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Year introduced	2004		1956			2010			1956
Epidemic threshold	Yes.		Yes.			No.			No.
Sampling strategy methodology	Convenience sampling.		Convenience sampling.			All cases.			
Sampling strategy	One sample from general practice and one sample from paediatric practice per week from all regions are collected during the influenza season (week 40-20).		One sample from general practice and one sample from paediatric practice per week from all regions are collected during the influenza season (week 40-20).						Upon request from the non-sentinel site.

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Denmark

Total population: 5,724,456

Income group: high

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.								Virological.
Reporting period	Week 40-20.								Year-round.
Population covered (%)	3.0%								100.0%
Type of health facilities/hospitals	General practice.								All.
Number of health facilities/hospitals	100 facilities.								All national hospitals, out-patients clinics and GPs.
Case definition used	National.								
Description of national case definition	Sudden onset of fever, muscle pain and respiratory tract symptoms.								
Year introduced	1994								2010

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Epidemic threshold	Yes.								No.
Sampling strategy methodology	Convenience sampling.								All cases.
Sampling strategy	GPs are asked to swab the first 5 ILI patients they see. Sample kits are sent to 1/3 of all GPs at three different points in time during the season: before the start of the season, and just before and just after the peak.								There are national guidelines for when to swab patients in and outside hospitals during and outside the influenza season.

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Estonia

Total population: 1,309,104

Income group: high

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.			Clinical.			Integrated clinical and virological.		Virological.
Reporting period	Year-round.			Year-round.			Year-round.		Year-round.
Population covered (%)	13.6%			100.0%			Not available.		Not available.
Type of health facilities/hospitals	General practice, polyclinic, family doctor.			General practice, paediatric practice, polyclinic, family doctor.			ICU of central and regional hospitals.		2 regional hospitals and 1 central hospital.
Number of health facilities/hospitals	17 facilities.			449 facilities.			9 hospitals.		3 hospitals.
Case definition used	ECDC.			ECDC, WHO.			Not available.		Not available.
Description of national case definition									
Year introduced	2006			1954			2011		2000

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Epidemic threshold	Yes.			Yes.			No.		No.
Sampling strategy methodology	Convenience sampling.			Convenience sampling.			Convenience sampling.		Convenience sampling.
Sampling strategy	Each sentinel site collects up to 10 specimens per week from cases that meet the ECDC case definition. All age groups are included.			Depends on doctor's decision; non-systematic.					

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Finland

Total population: 5,523,904

Income group: high

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.		Integrated clinical and virological.					Virological.	Virological.
Reporting period	Clinical: year-round; Virological: weeks 40-20.		Clinical: year-round; Virological: weeks 40-20.					Clinical: year-round; Virological: weeks 40-20.	Clinical: year-round; Virological: weeks 40-20.
Population covered (%)	50.0%		50.0%					Not known. All ICUs in Finland are included; specimens are collected on sentinel basis.	100.0%
Type of health facilities/hospitals	General practice.		General practice.					Intensive care unit.	All hospitals and outpatient clinics.
Number of health facilities/hospitals	Clinical: 160 facilities; Virological: 25 facilities.		Clinical: 160 facilities; Virological: 25 facilities.					13 intensive care units.	All hospitals and outpatient clinics.
Case definition used	ECDC.		ECDC, WHO.					ARI treated in intensive care unit.	No case definition used.

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Description of national case definition									
Year introduced	2013		2013					2014	1995
Epidemic threshold	No.		No.					No.	No.
Sampling strategy methodology	Convenience sampling.		Convenience sampling.					Convenience sampling.	Convenience sampling.
Sampling strategy	Up to 5 specimens are collected per week.		Up to 5 specimens are collected per week.					Defined on clinical basis. All ICUs are asked to send 5-10 clinical samples from patients with clinically suspected influenza infection that require intensive care.	Defined on clinical basis.

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

France

Total population: 64,668,129

Income group: high

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.							Integrated clinical and virological.	Virological.
Reporting period	Week 40-17.							Week 45-15.	Week 40-17.
Population covered (%)	0.7%							~100%	
Type of health facilities/hospitals	General practice.							Intensive care unit.	General hospitals.
Number of health facilities/hospitals	Clinical: 458 facilities; Virological: 299 facilities.							204 hospitals.	44 hospitals.
Case definition used	National.							Laboratory-confirmed influenza and cases diagnosed as influenza by the clinician.	No case definition used.
Description of national case definition	Sudden onset of fever >39°C with respiratory symptoms and myalgia.								

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Year introduced	1984							2009	1994
Epidemic threshold	No.							No.	No.
Sampling strategy methodology	Convenience sampling.							All cases.	
Sampling strategy	First ILI case of the week, irrespective of age. No difference in sampling procedure between start and peak of the season.							Virtually all.	No sampling strategy. All samples taken from in-patients for diagnosis of influenza.

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Georgia

Total population: 3,727,000

Income group: lower middle

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.				Integrated clinical and virological.				Virological.
Reporting period	Year round.				Year round.				Year round.
Population covered (%)	1.7%				Not available.				Not available.
Type of health facilities/hospitals	General practice, paediatric practice, polyclinic.				Children's hospital in Tbilisi and Kutaisi sentinel site that includes 4 hospitals. Wards included are: intensive care unit, internal medicine, paediatric, maternity, infectious disease, respiratory disease, therapeutic/chronic disease.				Hospitals in Batumi, Akhaltsikhe and Zugdidi (virological surveillance only).
Number of health facilities/hospitals	1 facility.				5 hospitals.				Not available.

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Case definition used	WHO 2014.				WHO 2014.				PAHO/WHO 2014, unusual SARI.
Description of national case definition	Measured fever of $\geq 38\text{ c}^\circ$ and cough; with onset within the last 10 days.				Measured fever of $\geq 38\text{ c}^\circ$ and cough; with onset within the last 10 days and requires hospitalization.				
Year introduced	2007				2007				2015
Epidemic threshold	No.				No.				No.
Sampling strategy methodology	Systematic sampling.				Systematic sampling.				
Sampling strategy	Every 3rd ILI patient on Tuesday and Thursday.				Every SARI patient on Tuesday and Thursday.				ICU patient or every unusual case of SARI.

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Germany

Total population: 80,682,351

Income group: high

System characteristic	Primary care				Hospital*				Other**	
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza			
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal		
Surveillance system			Integrated clinical and virological.							Virological.
Reporting period			Year-round.							Year-round.
Population covered (%)			>1%							
Type of health facilities/hospitals			General practice, paediatric practice.							General practice, paediatric practice, hospitals, other laboratories.
Number of health facilities/hospitals			650 facilities.							
Case definition used			National.							
Description of national case definition			Patients with pharyngitis, bronchitis or pneumonia (with or without fever).							

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Year introduced			1992						1998
Epidemic threshold			No.						No.
Sampling strategy methodology			Convenience sampling.						Convenience sampling.
Sampling strategy			Specimens collected from the first ILI patients (using the ECDC case definition) per week in different age groups.						No sampling strategy. Virological samples are sent to the NIC for further analysis/characterization from different sources.

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Greece

Total population: 10,919,459

Income group: high

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.					Integrated clinical and virological.		Integrated clinical and virological.	
Reporting period	Week 40-20.					Week 40-20.		Year-round.	
Population covered (%)	~1.5%					100.0%		100.0%	
Type of health facilities/hospitals	Primary health care centres, National Organization for Healthcare Services Provision (EOPYY) clinics, private practitioners.					All ICUs.		All health facilities of the country including private practice offices.	
Number of health facilities/hospitals	145 facilities.								
Case definition used	ECDC.					National.		National.	

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Description of national case definition						Laboratory confirmed influenza.		Laboratory confirmed influenza.	
Year introduced	2004 (revised in 2014).					2010		2004	
Epidemic threshold	No.					No.		No.	
Sampling strategy methodology	Convenience sampling.					All cases.		All cases.	
Sampling strategy	Sampling plan for 2018-2019: all age groups, at sentinel physician's discretion, up to 5 per week.								

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Hungary

Total population: 9,821,318

Income group: high

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.								Virological.
Reporting period	Week 40-20.								Week 40-20.
Population covered (%)	>20%								Not available.
Type of health facilities/hospitals	General practice, paediatric practice.								
Number of health facilities/hospitals	~1350-1400 facilities.								Not available.
Case definition used	ECDC.								No specified case definition.
Description of national case definition									
Year introduced	2005								

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Epidemic threshold	Yes.								No.
Sampling strategy methodology	Convenience sampling.								
Sampling strategy	Doctors are advised to collect 2 specimens of ILI patients per week per site.								Sampling is performed for diagnostic purposes.

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Iceland

Total population: 331,778

Income group: high

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system		Integrated clinical and virological.		Clinical.				Integrated clinical and virological.	Integrated clinical and virological.
Reporting period		Year-round.		Year-round.				Year-round.	Year-round.
Population covered (%)		100.0%		100.0%				100.0%	100.0%
Type of health facilities/hospitals		General practice, emergency department, long term care, selected private practitioners.		General practice, emergency department.				All health care facilities.	
Number of health facilities/hospitals		94 facilities.		94 facilities.					
Case definition used		National.		National.				ECDC.	
Description of national case definition		ICD-10 codes J09, J10 and J11 with sub-codes.		Selected ICD-10 codes for respiratory symptoms and infections.					

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Year introduced		2009		2011				2009	
Epidemic threshold		Yes.		No.				No.	
Sampling strategy methodology									
Sampling strategy		No sampling strategy. Sampling is based on clinical suspicion for diagnostic purposes.						No sampling strategy.	

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Ireland

Total population: 4,713,993

Income group: high

System characteristic	Primary care				Hospital*				Other* *
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.							Integrated clinical and virological.	Virological.
Reporting period	Year-round.							Week 40-20.	Week 40-20.
Population covered (%)	6.3%							100.0%	Not available.
Type of health facilities/hospitals	General practice.							All acute hospitals.	Hospitals, GPs and nursing homes (excluding sentinel GPs).
Number of health facilities/hospitals	60 facilities.							60 acute care public and private hospitals.	Not available.
Case definition used	ECDC.							Laboratory-confirmed influenza.	Laboratory-confirmed influenza.

Description of national case definition									
Year introduced	2000							2009 (all ages); 2003 (0-14).	2000
Epidemic threshold	Yes.							No.	No.
Sampling strategy methodology	Convenience sampling.							All cases.	All cases.
Sampling strategy	One ILI patient swabbed a week by each sentinel GP. Recommended to swab first ILI case consulting each GP each week. For sentinel GPs participating in IMOVE: up to 5 ILI patients per week aged <65 and all patients aged ≥65 should be swabbed. Recommended to swab the first five ILI cases (<65) consulting each GP each week.								All cases reported.

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Israel

Total population: 8,192,463

Income group: high

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Clinical.								Integrated clinical and virological.
Reporting period	Year-round.								Year-round.
Population covered (%)	25.0%								25.0%
Type of health facilities/hospitals	General practice, paediatric practice. Community clinics of country's 2nd largest health maintenance organization.								Tertiary medical centre.
Number of health facilities/hospitals	33 clinics - this is only related to laboratory surveillance.								1 hospital.
Case definition used	National.								Hospitalized ARI cases.

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Description of national case definition	Acute fever of at least 37.8° accompanied by at least one of the following symptoms: runny nose, sore throat, cough, myalgia.								
Year introduced	2000								2000
Epidemic threshold	Yes.								No.
Sampling strategy methodology	Convenience sampling.								All cases.
Sampling strategy	Convenience sampling. Swabs are taken from some ILI cases. Swabs are taken on the first or second day of illness.								Hospitalized ARI cases.

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Italy

Total population: 60,592,600

Income group: high

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.		Clinical.					Integrated clinical and virological.	Virological.
Reporting period	Clinical: week 42-17; Virological: week 46-17.							Week 42-17.	Week 46-17.
Population covered (%)	2.0%							100.0%	100.0%
Type of health facilities/hospitals	General practice, paediatric practice.		General practice, paediatric practice and hospitals.					Hospitals.	Hospitals.
Number of health facilities/hospitals	900 facilities.							417	1000
Case definition used	ECDC.		No case definition used.					National.	Not available.

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Description of national case definition								Every hospitalized patient in ICO and/or in ECMO with SARI (according to the WHO 2011 case definition) and/or ARDS symptoms is eligible. Only the positive cases for any of the influenza viruses are reported.	
Year introduced	1999		1999					2009	2009
Epidemic threshold	Yes.		No.					No.	No.
Sampling strategy methodology	Convenience sampling.							All cases.	

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Sampling strategy	The protocol requests collection of 2 swabs per week for each age group (0-4; 5-14; 15-64; 65+) with no differences between the start and the peak of the season.							All cases hospitalized in ICU and/or in ECMO with SARI and ARDS symptoms confirmed for influenza must be reported.	Not available.

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Kazakhstan

Total population: 17,855,384

Income group: upper middle

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.			Integrated clinical and virological.	Integrated clinical and virological.				
Reporting period	Year-round.			Week 40-20.	Year-round.				
Population covered (%)	8.8%			100.0%					
Type of health facilities/hospitals	Paediatric polyclinic, polyclinic for adults.			Paediatric practice, polyclinic, infectious disease hospital, state hospital, pulmonary diseases ward.	General, paediatric, pulmonary and infectious diseases wards.				
Number of health facilities/hospitals	30 facilities.				27 hospitals.				
Case definition used	WHO 2011.				WHO 2014.				

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Description of national case definition									
Year introduced	2008				2008				
Epidemic threshold	No.			Yes.	No.				
Sampling strategy methodology	Convenience sampling.			Convenience sampling.	Convenience sampling.				
Sampling strategy	Samples are taken weekly from patients over the age of 1 year, presenting at sentinel polyclinics and meeting ILI case definition, with disease duration no longer than 72 hours: 3 to 5 patients from each age group: 1-4, 5-14, 15-29, 30-64, 65 and older.			Samples are taken monthly from at least 10 patients with ARI or influenza, with pronounced clinical symptoms in the pre-epidemic and epidemic periods of ARI and influenza morbidity.	Samples are taken from SARI patients (children older than 1 year - 72 hours or less since onset of illness; for persons >18 years - not later than 7 days since onset of illness). Swabs are taken not more than from 1 patient daily from each age group: 1-4, 5-14 in paediatric hospitals;				

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
					15-29, 30-64, 65 and older in hospitals for adults. The weekly number of samples is at least 3 from each age group (the total weekly number for all age groups – at least 15).				

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Kyrgyzstan

Total population: 6,033,769

Income group: lower middle

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.			Clinical.	Integrated clinical and virological.		Virological.		Clinical.
Reporting period	Year-round.			Year-round.	Year-round.		Year-round.		Year-round.
Population covered (%)	Not available.			100.0%	Not available.				
Type of health facilities/hospitals	Polyclinics.			Polyclinics and hospitals.	Hospitals.		National virological and 3 virological laboratories under the Centres for Disease Prevention and State Public Health Surveillance.		
Number of health facilities/hospitals	4 facilities.			All facilities.	5 hospitals.		Confirmation currently is carried out by 4 virological laboratories.		
Case definition used	WHO 2014.			National.	WHO 2014.				

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Description of national case definition	Case definition of influenza-like illness (ILI): acute respiratory disease with onset in previous 7 days and with the following symptoms: <ul style="list-style-type: none"> • measured fever $\geq 38^{\circ}\text{C}$; • cough. 			Acute upper respiratory infections of multiple and unspecified sites (ICD-10 code J06).	Case definition of severe acute respiratory infection (SARI): acute respiratory disease with onset in previous 7 days, requiring hospitalization, and with the following symptoms: measured fever or history of fever $\geq 38^{\circ}\text{C}$, cough.		Laboratory confirmed cases.		
Year introduced	2016			2009	2009		2005		
Epidemic threshold	No.			Yes.	No.		No.		Yes.
Sampling strategy methodology	Convenience sampling.				Convenience sampling.				

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Sampling strategy	The first patients (> 1 year of age) that meet the ILI case definition; at least 3 patients from each age group during the week.			No samples collected.	The first patients (> 1 year of age) that meet the SARI case definition; at least 3 patients from each age group during the week.				

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Latvia

Total population: 1,955,742

Income group: high

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.		Integrated clinical and virological.		Clinical.				Virological.
Reporting period	Week 40- 20.		Week 40-20.		Week 40-20.				Year-round.
Population covered (%)	5.7%		5.7%						
Type of health facilities/hospitals	General practice, paediatric practice.		General practice, paediatric practice.		9 regional hospitals and 2 hospitals in capital city.				All types of hospitals and outpatient facilities.
Number of health facilities/hospitals	70 facilities.		70 facilities.		11 hospitals.				
Case definition used	ECDC.		ECDC, WHO.		National.				
Description of national case definition					By ICD-10 influenza and influenza-associated pneumonia.				
Year introduced	1995		1995		2006				

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Epidemic threshold	Yes.		Yes.		No.				No.
Sampling strategy methodology	Convenience sampling.		Convenience sampling.		Convenience sampling.				Convenience sampling.
Sampling strategy	ILI cases are preferably sampled at the GP sentinel sites and include patients in all age groups. Over 100 specimens were taken in the 2017-2018 season, mainly by GPs in Riga city.		Very few cases that meet the ARI case definition are sampled.						Hospitalized severe ILI cases are sampled at any time (24 hrs/7 days per week).

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Lithuania

Total population: 2,850,030

Income group: high

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.		Integrated clinical and virological.						Virological.
Reporting period	Year-round.		Year-round.						Year-round.
Population covered (%)	2.8%		2.8%						
Type of health facilities/hospitals	General practice.		General practice.						
Number of health facilities/hospitals	94 facilities.		94 facilities.						
Case definition used	ECDC.		No case definition used.						
Description of national case definition									
Year introduced	2004		2012						

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Epidemic threshold	Yes.		Yes.						
Sampling strategy methodology	All cases.		Convenience sampling.						
Sampling strategy	All cases are included.		On Tuesday according to medical doctor's decision.						

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Luxembourg

Total population: 576,243

Income group: high

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.		Clinical.						Virological.
Reporting period	Week 40-20.		Week 40-20.						Week 40-20.
Population covered (%)	3.0%		3.0%						Not available.
Type of health facilities/hospitals	General practice, paediatrician practice.		General practice, paediatrician practice.						General practice, paediatricians, pneumologist, neo-natalogist.
Number of health facilities/hospitals	15 facilities.		15 facilities.						4 facilities/hospitals.
Case definition used	ECDC.		ECDC, WHO.						
Description of national case definition	Respiratory symptoms and sudden fever >38.0° and myalgia.								
Year introduced	2003		2003						

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Epidemic threshold	Yes.		No.						No.
Sampling strategy methodology	All cases.								All cases.
Sampling strategy	In principle, all patients are sampled.		No samples collected.						

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Malta

Total population: 419,615

Income group: high

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.								Virological.
Reporting period	Week 40-20.								Week 36-20.
Population covered (%)	25.0%								100.0%
Type of health facilities/hospitals	General practice.								State hospital.
Number of health facilities/hospitals	9 facilities.								1 hospital.
Case definition used	WHO 2014.								WHO 2014.
Description of national case definition									
Year introduced	2003								2009

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Epidemic threshold	No.								No.
Sampling strategy methodology	Convenience sampling.								
Sampling strategy	Patients that accept having a specimen taken.								At the discretion of the hospital respiratory physician or paediatrician.

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Montenegro

Total population: 626,101

Income group: upper middle

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.	Integrated clinical and virological.				Integrated clinical and virological.			
Reporting period	Week 40-20.	Week 40-20.				Week 40-20.			
Population covered (%)	Not available.	100.0%				100.0%			
Type of health facilities/hospitals	General practice, paediatric practice.	General practice, paediatric practice, polyclinic.				General hospitals, Clinical Centre of Montenegro.			
Number of health facilities/hospitals	4 facilities.	29 facilities.				8 hospitals.			
Case definition used	ECDC.	ECDC.				WHO 2011.			
Description of national case definition									
Year introduced	2015/2016.	2009				2016			

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Epidemic threshold		Yes.				No.			
Sampling strategy methodology	Convenience sampling.					All cases.			
Sampling strategy	The first suspected case of ILI in each week is sampled.					All SARI cases are sampled at all times.			

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Netherlands

Total population: 16,979,729

Income group: high

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.		Integrated clinical and virological.		Clinical.		Integrated clinical and virological.		Virological.
Reporting period	Year-round.		Year-round.		Year-round.		Year-round.		Year-round.
Population covered (%)	0.8%		1) ARI syndrome: 8% 2) ARI virology: 0.8%.		6.0%		3.0%		
Type of health facilities/hospitals	General practice.		1) ARI syndrome: general practice. 2) ARI virology: general practice; same network as sentinel ILI.		General hospital, University medical centre.		General hospital.		Virology diagnostic laboratories; mostly hospital based.
Number of health facilities/hospitals	40 facilities.		1) 340 facilities. 2) 40 facilities.		2 hospitals.		1 hospital.		1) 18 laboratories. 2) 19 laboratories (11 overlap with (1)).

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Case definition used	National.		National.		National.		National.		1) 5-6 influenza virus positive specimens max per week per laboratory; randomly selected and special cases. 2) All influenza virus and RSV-positive laboratory diagnoses.
Description of national case definition	Acute onset and rectal temperature >38°C and at least one of the following symptoms: cough, coryza, sore throat, frontal headache, retrosternal pain, myalgia.		1) ICPC codes R74, R75, R77, R78, R80, R81. 2) Any ARI other than ILI (ICPC codes R74, R77, R78, R80, R81).		A SARI patient with: * at least one systemic symptom or sign: fever or feverishness, malaise, headache or myalgia or deterioration of general condition (asthenia or loss of weight or anorexia or confusion or dizziness) and		An influenza case is defined as a patient hospitalized with SARI with a respiratory sample positive for influenza. SARI case definition: * at least one systemic symptom or sign: fever or feverishness, malaise, headache or myalgia or deterioration		Based on diagnostic requests from physicians; no specific case definition.

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
					* at least one respiratory symptom or sign (cough, sore throat or shortness of breath) at admission and * the symptoms should not have started (or clearly worsened, if chronic) more than 7 days before admission.		of general condition (asthenia or loss of weight or anorexia or confusion or dizziness) and * at least one respiratory symptom or sign (cough, sore throat or shortness of breath) at admission and * the symptoms should not have started (or clearly worsened, if chronic) more than 7 days before admission.		
Year introduced	1970; testing of specimens introduced in 1994.		1) 2015 2) 1994.		2015		2015		1) 1948 2) 1964.
Epidemic threshold	Yes.		No.		No.		No.		No.

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Sampling strategy methodology	Convenience sampling.		Convenience sampling.				Convenience sampling.		Convenience sampling.
Sampling strategy	The first two ILI patients. If there are no ILI patients Mon -Wed, then the first two ILI or ARI patients presenting Thursday -Sunday. In the absence of ILI cases, samples are collected from ARI cases. Preferably at least one child < 10 yrs.		1) No sampling, syndromic surveillance only. 2) See ILI surveillance.		No sampling strategy.		All SARI cases of 65 years or older during the influenza season.		Based on diagnostic requests from physicians; no national sampling strategy.

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Norway

Total population: 5,271,958

Income group: high

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Virological.	Clinical.		Clinical.			Virological.		Virological.
Reporting period	Year-round.	Week 40-20.		Year-round.			Week 40-20.		Year-round.
Population covered (%)	3.0%	99.0%		99.0%			60.0%		100.0%
Type of health facilities/hospitals	General practices, emergency clinics in primary health care.	General practices, emergency clinics in primary health care.		General practices, emergency clinics in primary health care; Lab-confirmed SARI: Hospital laboratories at regional hospitals and university hospitals.			Hospital laboratories at regional hospitals and university hospitals. Medical microbiology laboratories performing influenza virus diagnostics.		Medical microbiology laboratories performing influenza virus diagnostics.
Number of health facilities/hospitals	70 facilities.	5750 facilities.		5750 facilities.			9 hospitals.		17 laboratories.
Case definition used	WHO 2014.	National.		National.			National.		National.

Description of national case definition		<p>ICPC-2 diagnosis code "R80 influenza" where an ILI case is defined as: myalgia and cough without abnormal findings upon airway examination except inflammation of nasal mucosa and throat, plus three or more of the following:</p> <ul style="list-style-type: none"> -sudden onset of symptoms (within 12 hours); - fever, chills or feverishness; - malaise and fatigue; - influenza in the community; - ongoing influenza epidemic; - laboratory confirmed influenza. 		<p>ICPC-2 diagnosis code "R05 cough", "R74 Acute upper respiratory infection", "R78 Acute bronchitis/bronchiolitis" and "R83 respiratory infection not classified elsewhere. R05 includes productive or non-productive/dry cough. R74 includes acute rhinitis, pharyngitis, cold, nasopharyngitis, upper respiratory infections. R78 includes acute lower respiratory infection not classified elsewhere, bronchitis not classified elsewhere, larynges tracheobronchitis, respiratory infection not classified elsewhere and tracheobronchitis. R83 respiratory infections not classified elsewhere; includes diphtheria, emphysema, epiglottitis, chronic pharyngitis, chronic nasopharyngitis, chronic rhinitis not classified elsewhere, fungal respiratory infection, lung abscess, protozoal infection (without pneumonia).</p>			<p>Hospitalized and laboratory-confirmed influenza. Corresponding data on outpatients tested are also available.</p>		<p>Laboratory confirmed influenza.</p>
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System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Year introduced	Laboratory sentinel system was introduced in 1979.	2014 Prior to this there was a sentinel system for ILI that started in 1998; before that clinical influenza was notifiable (aggregated).		2017			2014		1982
Epidemic threshold		Yes.					No.		No.
Sampling strategy methodology	Convenience sampling.						All cases.		All cases.
Sampling strategy	70 general practices and primary care emergency wards are participating in the voluntary network of influenza sentinel practices coordinated by the NIC. These send in ILI patient specimens all			No samples collected.			Medical microbiology laboratories that perform influenza virus diagnostics report all detections, by virus type (A, B), with testing denominators by age group (0-4, 5-15, 15-24, 25-59, >60) and hospitalization status (inpatient/outpatient).		Medical microbiology laboratories that perform influenza virus diagnostics report weekly all detections, by type and subtype, with testing denominators by age group (0-4, 5-14, 15-24, 25-59, >60).

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
	year round, based on the WHO 2014 case definition. All ages included but bias toward working-age patients.							These labs also submit influenza positive specimens to the NIC, each up to five samples per type per week plus special cases (severe, unusual circumstances, suspicion of resistance).	

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Poland

Total population: 38,426,809

Income group: high

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.								Integrated clinical and virological.
Reporting period	Year-round.								Year-round.
Population covered (%)	3.0%								100.0%
Type of health facilities/hospitals	General practice.								General practice, hospitals.
Number of health facilities/hospitals	536 facilities.								
Case definition used	ECDC.								ECDC.
Description of national case definition									
Year introduced	2004								1951

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Epidemic threshold	No.								No.
Sampling strategy methodology	Convenience sampling.								Convenience sampling.
Sampling strategy	Collection of specimens 7 days a week (by age and sentinel site) is recommended. The sampling procedure is the same during the whole season - all cases and all age groups are included.								There is no national sampling strategy. Sampling is based on the doctor's decision.

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Portugal

Total population: 10,304,434

Income group: high

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.						Virological.		Virological.
Reporting period	Clinical: year-round; virological: week 40-20.								
Population covered (%)	2.1%								Not available.
Type of health facilities/hospitals	General practice.						ICU/hospitals.		Hospitals, emergency units.
Number of health facilities/hospitals	125 facilities.						33 ICU/24 hospitals.		100 emergency units, 19 hospitals (laboratory network).
Case definition used	ECDC.						National.		ECDC.
Description of national case definition							Hospitalized influenza-confirmed cases.		

Year introduced	1989						2011-2012.		1989: emergency units. 2009: hospital (laboratory network).
Epidemic threshold	Yes.						No.		No.
Sampling strategy methodology	Convenience sampling.								
Sampling strategy	Samples are collected from ILI cases, from GP patient list, all ages, and during the whole season.						Once a week (Wednesdays) the ICU sends information on cases admitted to ICU during the previous week with laboratory confirmation for influenza. All cases and all age groups are included in sampling; the same sampling procedure is used throughout the season.		Laboratory based surveillance. All cases are sampled. Cases sampled fit the ECDC case definition and/or the clinician's decision.

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Republic of Moldova

Total population: 3,553,056

Income group: lower middle

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.		Integrated clinical and virological.		Integrated clinical and virological.				Integrated clinical and virological.
Reporting period	Year-round.		Year-round.		Year-round.				Week 40-20.
Population covered (%)	11.0%		11.0%		43.0%				57.0%
Type of health facilities/hospitals	Health centres.		Health centres.		Intensive care unit, general/internal medicine, paediatric medicine, infectious disease and respiratory disease ward, therapeutic/chronic disease ward.				ICU, general/internal medicine, paediatric medicine, infectious disease and respiratory disease ward, therapeutic/chronic disease ward, health centres.
Number of health facilities/hospitals	10 facilities.		10 facilities.		17 hospitals.				492 facilities.

Case definition used	WHO 2014.		ECDC, WHO.		WHO 2014.				ILI: WHO 2014; ARI: ECDC/WHO; SARI: WHO 2014.
Description of national case definition									
Year introduced	2017		2017		2017				2017
Epidemic threshold	No.		Yes.		No.				No.
Sampling strategy methodology	Convenience sampling.		Convenience sampling.		Convenience sampling.				
Sampling strategy	12 swabs are taken weekly (between week 40 and week 20) from the first patients who meet the ILI/ARI case definition. These swabs are taken between week 40 and week 20; outside this period swabs are taken in case of their existence.		12 swabs are taken weekly (between week 40 and week 20) from the first patients who meet the ILI/ARI case definition. These swabs are taken between week 40 and week 20; outside this period swabs are taken in case of their existence.		20 swabs are taken weekly from first patient who meets the SARI/ILI case definition. These swabs are taken between week 40 and week 20; outside this period swabs are taken in case of their existence.				Non-sentinel: sampling is done for the more serious cases of ILI or SARI.

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Republic of North Macedonia

Total population: 2,081,012

Income group: upper middle

System characteristic	Primary care				Hospital*				Other* *
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.	Clinical.	Clinical.		Integrated clinical and virological.				Integrated clinical and virological.
Reporting period	Year-round.	Year-round.	Year-round.		Week 40-20.				Week 40-20.
Population covered (%)	2.0%	100.0%	2.0%						100.0%
Type of health facilities/hospitals	General practices.	General practice, paediatric practice, polyclinic, infectious disease clinic, all other health facilities from primary care, secondary tertiary level of health care.	General practices.						
Number of health facilities/hospitals	14 facilities.	All.	14 facilities.		5 hospitals.				
Case definition used	WHO 2014.		ECDC, WHO.		WHO 2014.				Laboratory-confirmed influenza.

Description of national case definition									
Year introduced	2014	1966	2014						
Epidemic threshold	Yes.		No.						
Sampling strategy methodology	Convenience sampling.								Convenience sampling.
Sampling strategy	For sentinel ILI/ARI, from 2017-2018 season, advise collecting 2 specimens per site per week from first patients presenting with ILI. All age groups and all cases are included in sampling strategy.		No samples collected.						For universal surveillance there is no sampling strategy. Based on clinician's decision.

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Romania

Total population: 19,372,734

Income group: upper middle

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.		Integrated clinical and virological.		Integrated clinical and virological.				Virological.
Reporting period	Year-round.		Year-round.		Week 46-20.				Week 40-20.
Population covered (%)	2.0%		2.0%		19.0%				100.0%
Type of health facilities/hospitals	General practice.		General practice.		Intensive care unit, general/internal medicine, paediatric medicine, infectious disease ward, respiratory disease ward.				Hospitals, primary health care practices, specialized medical practices, health centres, outpatient clinics, emergency services providers, home care providers, long term care institutions.
Number of health facilities/hospitals	192 facilities.		192 facilities.		19 hospitals.				Around 12,000 GPs and 10,000 other health facilities/hospitals.

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Case definition used	WHO 2014.		ECDC, WHO.		National.				For ILI: WHO 2014.
Description of national case definition	An acute respiratory illness with fever $\geq 38^{\circ}\text{C}$, cough, onset within the last 10 days, in the absence of other clinical diagnosis.		An acute respiratory illness with sudden onset and at least one of the following: cough, sore throat, breathing difficulties, coryza.		An acute respiratory illness with a history of fever or measured fever of $\geq 38^{\circ}\text{C}$ and cough and shortness of breath or difficulty breathing, with onset within the past 10 days, requiring hospitalization overnight.				For ILI: WHO 2014.
Year introduced	2014		2001		2009				2014
Epidemic threshold	Yes.		Yes.		No.				No.
Sampling strategy methodology	Systematic sampling.		Convenience sampling.		Convenience sampling.				

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Sampling strategy	On Tuesdays from week 40 (onset of influenza season) swabs are collected from all cases presented and who meet the ILI case definition. After the onset of the season the algorithm is established by the National Centre, according to specific season parameters.		Depending on the epidemiological context, ARI cases can be sampled and tested for influenza.		From week 46 until the onset of the influenza season, the first 3 detected SARI cases in each sentinel hospital are sampled. After that, only the first detected SARI case in each sentinel hospital is sampled.				For ILI: there is only a sentinel sampling strategy. Non-sentinel: sampling is done for the more serious cases, depending on the funds available for payment of the tests.

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Russian Federation

Total population: 143,439,832

Income group: upper middle

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.	Integrated clinical and virological.	Integrated clinical and virological.	Integrated clinical and virological.	Integrated clinical and virological.	Clinical.			
Reporting period	Year-round.	Year-round.	Year-round.	Year-round.	Year-round.	Year-round.			
Population covered (%)	About 17% of population live in cities where sentinel facilities are located	35.0%	About 17% of population live in cities where sentinel facilities are located	35.0%	About 17% of population live in cities where sentinel facilities are located	35.0%			Around 35% of population
Type of health facilities/hospitals	Polyclinics, infectious diseases hospitals, general hospitals (infectious diseases wards).	Polyclinics, infectious diseases hospitals, general hospitals (infectious diseases wards).	Polyclinics, infectious diseases hospitals, general hospitals (infectious diseases wards).	Polyclinics, infectious diseases hospitals, general hospitals (infectious diseases wards).	Infectious diseases hospitals for adults and children, infectious diseases wards in general hospitals, intensive care units.	Infectious diseases hospitals for adults and children, infectious diseases wards in general hospitals, intensive care units.			Polyclinics, infectious diseases hospitals, general hospitals (infectious disease wards).
Number of health facilities/hospitals	14 facilities.	61 cities.	14 facilities.	61 cities.	19 hospitals in 10 cities.	61 cities.			58 laboratories.

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Case definition used	WHO 2011.	No case definition used.	WHO 2011.	No case definition used.	WHO 2011.	No case definition used.			
Description of national case definition									
Year introduced	2010	2005	2010	1971	2010	Not known.			1971
Epidemic threshold	No.	Yes.	No.	Yes.	No.	No.			No.
Sampling strategy methodology	Convenience sampling.	Convenience sampling.	Convenience sampling.	Convenience sampling.	All cases.	Convenience sampling.			Convenience sampling.
Sampling strategy	Average weekly number of samples from ILI/ARI patients in each city – 29; all age groups are included.	Convenience sampling.	Average weekly number of samples from ILI/ARI patients in each city – 29; all age groups are included.	Convenience sampling.	Samples are taken from all SARI patients according to WHO 2011 case definition.	Convenience sampling.			On average, 10–50 samples are tested weekly for influenza in each city. Exact number is determined based on the epidemiological situation.

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Serbia

Total population: 7,131,787

Income group: upper middle

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system		Integrated clinical and virological.			Integrated clinical and virological.				Virological.
Reporting period		Week 40-20.			Week 40-20.				Year-round.
Population covered (%)		100.0%			80.0%				
Type of health facilities/hospitals		General practice, paediatric practice.			Intensive care unit, general/internal medicine, paediatric medicine, infectious disease ward, respiratory disease ward.				
Number of health facilities/hospitals		158 facilities.			10 hospitals.				
Case definition used		WHO 2011.			WHO 2011.				

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Description of national case definition									
Year introduced		2006			2009				
Epidemic threshold		Yes.			No.				
Sampling strategy methodology		Convenience sampling.			Convenience sampling.				
Sampling strategy		ILI cases are sampled mostly during the first 4 days in the week. All age groups are included in sampling.			Sentinel SARI cases are sampled mostly during the first 4 days in the week. All age groups are included in sampling.				

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Slovakia

Total population: 5,429,418

Income group: high

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system		Clinical.		Clinical.		Integrated clinical and virological.			Virological.
Reporting period		Year-round.		Year-round.		Year-round.			Year-round.
Population covered (%)		100.0%		100.0%		100.0%			53.2%
Type of health facilities/hospitals		General practice, paediatric practice.		General practice, paediatric practice.		Intensive care unit.			General practice, paediatric practice, hospitals.
Number of health facilities/hospitals		88 facilities.		88 facilities.		74 hospitals.			3635 facilities.
Case definition used		ECDC.		ECDC, WHO.		WHO 2014.			ECDC, WHO, WHO 2014.
Description of national case definition									
Year introduced		2002		2002		2009			2002

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Epidemic threshold		Yes.		Yes.		No.			
Sampling strategy methodology		Convenience sampling.		Convenience sampling.		All cases.			
Sampling strategy		Based on the doctor's decision. All cases are included in the sampling strategy.		Based on the doctor's decision. All cases are included in the sampling strategy.		All reported SARI cases are laboratory tested.			Based on the doctor's decision. All cases are included in the sampling strategy.

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Slovenia

Total population: 2,064,241

Income group: high

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.		Clinical.						Virological.
Reporting period	Year-round.		Year-round.						Year-round.
Population covered (%)	4.0%		4.0%						100.0%
Type of health facilities/hospitals	General practice, paediatric practice, school doctors.		General practice, paediatric practice, school doctors.						Hospitals.
Number of health facilities/hospitals	45 facilities.		45 facilities.						All facilities/hospitals.
Case definition used	ECDC.		ECDC, WHO.						No case definition used. Most samples are derived from hospitalized patients with ARI, but not exclusively.

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Description of national case definition									
Year introduced	1999		1999						
Epidemic threshold	No.		No.						No.
Sampling strategy methodology	Convenience sampling.								
Sampling strategy	Samples are collected from ILI patients. More intensive sampling is advised during the beginning of the season. The number of samples is not limited.		No samples are collected.						

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Spain

Total population: 46,468,102

Income group: high

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.						Integrated clinical and virological.		Virological.
Reporting period	Clinical: week 40-20. Virological: year-round.						Year-round.		Week 40-20 weekly reporting. Week 21-39 monthly reporting.
Population covered (%)	2.5%						52.0%		
Type of health facilities/hospitals	General practice, paediatric practice.						All wards mainly in public general hospitals.		Laboratories mainly in public hospitals.
Number of health facilities/hospitals	582 facilities.						100 hospitals.		
Case definition used	ECDC.						Laboratory-confirmed influenza in all wards.		Influenza-confirmed cases (no case definition used).

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Description of national case definition	Based on the ECDC case definition.						<p>The system is based on the notification of those laboratory-confirmed influenza hospitalized cases in all wards who match the Spanish severe hospitalized confirmed influenza case definition. This case definition includes several severity criteria: “any case with clinical features compatible with influenza, requiring hospitalization for clinical severity: at least one of the following criteria: pneumonia, septic shock, acute respiratory distress syndrome, multiple organ dysfunction syndrome, admission to ICU, or death.</p>		

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Year introduced	1996						2009		1996
Epidemic threshold	Yes.						No.		No.
Sampling strategy methodology	Convenience sampling.						All cases.		Convenience sampling.
Sampling strategy	Samples are collected from the first 2 patients who attend the sentinel facility during the week. All age groups are included in sampling and the sampling procedure does not differ between the start and the peak of the season.						All patients who meet clinical criteria of severe influenza like illness who required hospitalization (pneumonia/septic shock/ ARDS/multiple organ dysfunction syndrome, admission to ICU or death) are sampled.		

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Sweden

Total population: 9,851,852

Income group: high

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Virological.							Clinical.	Virological.
Reporting period	Week 40-20.							Year-round.	Year-round.
Population covered (%)	8.0%							100% (with 25% underreporting).	100.0%
Type of health facilities/hospitals	General practice, infectious disease and paediatric clinics.							Intensive care unit.	Emergency care, hospitals, infectious disease and paediatric clinics, primary care facilities.
Number of health facilities/hospitals	80 facilities.							78 intensive care units.	28 microbiological laboratories (these also report analyses performed at other hospitals without microbiological laboratories).

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Case definition used	ECDC.							Laboratory-confirmed influenza.	Laboratory-confirmed influenza cases. Patients presenting with ILI - similar to ECDC ILI case definition.
Description of national case definition									
Year introduced	2006							2013	1993, changed in 2013.
Epidemic threshold	No.							No.	Yes.
Sampling strategy methodology	Convenience sampling.								
Sampling strategy	Up to 5 specimens collected per week per site.							No sampling strategy. Samples are collected based on decision of the clinician.	No sampling strategy. Samples are collected based on decision of the clinician.

See Notes for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Switzerland

Total population: 8,379,477

Income group: high

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.								Virological.
Reporting period	Clinical: all year round. Virological: week 40-16.								Year-round.
Population covered (%)	1.9-2.0%.								100.0%
Type of health facilities/hospitals	General practice, paediatrician.								Laboratories.
Number of health facilities/hospitals	150-200 facilities.								<200 laboratories.
Case definition used	WHO <2011.								Laboratory-confirmed influenza.
Description of national case definition									
Year introduced	1987								1988

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Epidemic threshold	Yes.								No.
Sampling strategy methodology	Convenience sampling.								
Sampling strategy	About 45% of the sentinel facilities collect specimens. They sample all ILI patients when the incidence is below the epidemic threshold, and every 4th-5th ILI patient when the incidence is above the epidemic threshold.								Mandatory notification of influenza detection. Consequently, no standard sampling strategy.

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Tajikistan

Total population: 8,640,714

Income group: low

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.	Clinical.	Integrated clinical and virological.	Clinical.	Integrated clinical and virological.				
Reporting period	Week 40-20.	Week 40-20.	Week 40-20.	Week 40-20.	Week 40-20.				
Population covered (%)		100.0%		100.0%	10.3%				
Type of health facilities/hospitals	Health centre.	Health centres (PHC) and hospitals.		Health centres (PHC) and hospitals.	Hospital.				
Number of health facilities/hospitals	1 facility.	3085 facilities.		3085 facilities.	1 hospital.				
Case definition used		National.		National.	WHO 2014.				

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Description of national case definition		Cases are identified primarily based on clinical diagnoses, consequently the system includes surveillance of both viral and bacterial acute respiratory diseases.		Cases are identified primarily based on clinical diagnoses, consequently the system includes surveillance of both viral and bacterial acute respiratory diseases.					
Year introduced	2016		2016		2016				
Epidemic threshold	No.	No.	No.	No.	No.				
Sampling strategy methodology					Systematic sampling.				

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Sampling strategy		No sampling strategy.		No sampling strategy.	All patients that meet the SARI case definition (WHO 2014) who are newly hospitalized through the admission unit on Monday, Tuesday and Wednesday. All age groups are included in sampling. There is no difference in sampling procedures between the start and the peak of the season. All cases are included in the sampling strategy.				

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Turkey

Total population: 79,277,962

Income group: upper middle

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.				Integrated clinical and virological.				Virological.
Reporting period	Week 40-20.				Week 40-20.				Week 40-20.
Population covered (%)	1.0%				Not available.				Not available.
Type of health facilities/hospitals	Family physician centres.				Intensive care unit, emergency department, internal disease department, paediatric disease department, infectious disease department, pulmonary disease department.				All hospitals.
Number of health facilities/hospitals	220 facilities.				10 hospitals.				The number of health facilities is not constant. Samples are collected from any hospital in the country.

Case definition used	WHO <2011.				WHO 2014.				WHO 2014.
Description of national case definition					WHO 2014; age-specific case definitions.				
Year introduced	2004				2016				2004
Epidemic threshold	No.				No.				No.
Sampling strategy methodology	Convenience sampling.				All cases.				
Sampling strategy	At least one sample for each week randomly chosen until Friday showing ILI case definition, including all age groups, by 220 family doctors.				Samples are collected from all patients that meet the SARI case definition, all age-groups included, in 10 hospitals.				No sampling strategy.

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Turkmenistan

Total population: 5,438,670

Income group: upper middle

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.			Integrated clinical and virological.	Integrated clinical and virological.			Integrated clinical and virological.	Integrated clinical and virological.
Reporting period	Year-round.			Year-round.	Year-round.			Year-round.	Year-round.
Population covered (%)				100.0%	Not available.			100.0%	
Type of health facilities/hospitals	Polyclinic.			Polyclinics and hospitals.	Hospital.			Polyclinics and hospitals.	
Number of health facilities/hospitals	1 facility.			All facilities.	1 hospital.			All.	
Case definition used	WHO <2011.			National.	WHO 2011.			National.	

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Description of national case definition	Case definition of influenza-like illness (ILI): acute respiratory disease with onset in previous 7 days and with the following symptoms: <ul style="list-style-type: none"> • measured fever $\geq 38^{\circ}\text{C}$; • cough. 			ARI – acute respiratory infection: characterized by sudden onset of symptoms, and at least one of the following four respiratory symptoms: <ul style="list-style-type: none"> • cough; • sore throat; • shortness of breath; • coryza; and • a clinician’s judgement that the illness is due to an infection. • the presence or absence of fever. ARI includes diseases under the ICD-10 codes J00-J06.	Case definition of severe acute respiratory infection (SARI): acute respiratory disease with onset in previous 7 days, requiring hospitalization, and with the following symptoms: <ul style="list-style-type: none"> • measured fever or history of fever $\geq 38^{\circ}\text{C}$, • cough, • shortness of breath or difficulty in breathing, not caused by nasal congestion or other types of upper respiratory obstruction. Note: <ul style="list-style-type: none"> – the term “shortness of breath” means abnormal frequency and depth of breathing, 			Influenza case – a case confirmed by use of one of the laboratory tests recommended for influenza diagnosis in the country.	

					caused by lack of air, not related to nasal congestion or other types of upper respiratory obstruction or other mechanical causes; – severe acute respiratory disease can mean a new illness, developed in presence of the main condition or as its complication; – SARI is not equivalent to classic pneumonia and does not always manifests as pneumonia. Many cases of severe respiratory problems can be caused by, e.g. exacerbation of a chronic lung or heart disease and have no signs of pneumonia.				
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System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Year introduced	2016			2009	2016			2009	
Epidemic threshold	No.			No.	No.			No.	No.
Sampling strategy methodology	Convenience sampling.			Convenience sampling.	Systematic sampling.			Convenience sampling.	Convenience sampling.
Sampling strategy	Two throat swabs are taken from each of two patients referred by the family physician. The first swab is used for rapid testing on-site, the second is sent (compliant to cold chain requirements) to the virological reference laboratory at the Centre for Public Health and Nutrition for PCR testing.				Samples are taken from patients admitted from 8 a.m. Tuesday till 8 a.m. Wednesday, who present three positive indicators, with onset of the symptoms ≤ 7 days prior to hospital admission. The number of daily samples should not exceed 10.				

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
	One throat swab is taken from subsequent patients, referred by family physicians, for on-site rapid testing.								

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Ukraine

Total population: 44,624,373

Income group: lower middle

System characteristic	Primary care				Hospital*				Other* *
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.		Clinical.	Clinical.	Integrated clinical and virological.				
Reporting period	Year-round.		Year-round.	Week 40-20.	Year-round.				
Population covered (%)	0.1%		0.1%	100.0%	6.5%				
Type of health facilities/hospitals	Primary health care.		Primary health care.	Primary health care.	Intensive care unit, paediatric infectious disease ward, respiratory disease ward.				
Number of health facilities/hospitals	7 facilities.		7 facilities.	All facilities.	10 hospitals.				
Case definition used	WHO 2014.		ECDC, WHO.	No case definition used	WHO 2011.				
Description of national case definition					Use WHO 2011 case definition.				
Year introduced	2018		2018		2007				

Epidemic threshold	No.		No.	Yes.	No.				
Sampling strategy methodology	Systematic sampling.				Systematic sampling.				
Sampling strategy	Each doctor involved in sentinel surveillance during the reporting week takes samples from the first two patients that meet the case definition. All age groups are included in the contingents for sampling. All patients are included in the sampling strategy. The procedure for taking samples at the beginning and at the peak of the season does not differ.			Samples are collected without applying a sampling strategy. Samples are collected from patients at the discretion of the physician.	6 samples per week by site during weeks 40-20; 3 samples per week by site during weeks 21-39. All severe cases should be sampled.				

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

United Kingdom of Great Britain and Northern Ireland

Total population: 65,111,143

Income group: high

England

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.							Integrated clinical and virological.	Virological.
Reporting period	Week 40-20.							Week 40-20.	Week 40-20.
Population covered (%)	1.7%							100.0%	100.0%
Type of health facilities/hospitals	General practice.							Intensive care units.	PHE, NHS and private microbiology laboratories.
Number of health facilities/hospitals	190 general practices.							150 hospitals.	>200 laboratories.
Case definition used	National.								

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Description of national case definition	ILI is clinically defined as an individual presenting in primary care with an acute respiratory illness with physician-diagnosed fever or complaint of feverishness.							Laboratory-confirmed influenza in ICU patients (symptoms: fever ($\geq 38^{\circ}$ c) or history of fever in previous 7 days and two or more of: cough, sore throat, headache, rhinorrhoea, myalgia; D&V, increased respiratory rate, poor feeding).	
Year introduced	1964							2010	
Epidemic threshold	Yes.							No.	No.
Sampling strategy methodology	Convenience sampling.							All cases.	Convenience sampling.

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Sampling strategy	At the start of the season 2-3 ILI cases are swabbed per week. At the peak of the season max. 20 patients are swabbed per week.							All cases should be sampled.	

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Northern Ireland

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Virological.	Clinical.						Virological.	Virological.
Reporting period	Week 40-20.	Year-round.						Year-round for universal surveillance (reported to TESSy); week 40-20 for ICU-based surveillance.	Year-round.
Population covered (%)	11.6%	98.0%						100.0%	100.0%
Type of health facilities/hospitals	General practice.	General practice.						All hospitals for universal surveillance; all ICU/HDU units for ICU surveillance.	All facilities.
Number of health facilities/hospitals	37 facilities.	325 facilities.						All hospitals.	All facilities.
Case definition used	National.	National.						Laboratory-confirmed influenza.	Laboratory-confirmed influenza.

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Description of national case definition	A disabling acute respiratory illness accompanied by severe fever and myalgia.	All cases have symptoms consistent with clinical 'flu', 'flu-like illness' and acute respiratory illness (read codes) are automatically extracted from GP practices on a daily basis.							
Year introduced	2001	2009						2011	2011
Epidemic threshold	No.	Yes.						No.	No.
Sampling strategy methodology	Convenience sampling.	All cases.						All cases.	All cases.

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Sampling strategy	In 2018: up to a maximum of 5 patients per week that meet the case definition. Swabbing should be undertaken regardless of vaccination status and within seven days of onset of symptoms.	No virological samples collected.						All cases should be sampled.	All cases should be sampled.

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Scotland

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.	Clinical.		Clinical.				Integrated clinical and virological.	Virological.
Reporting period	Week 40-20.	Year-round.		Year-round.				Week 40-20.	Year-round.
Population covered (%)	6.6%	100.0%		100.0%				100.0%	100.0%
Type of health facilities/hospitals	General practice.	General practice.		General practice.				All hospitals that can provide intensive care management (3rd level care).	All hospital wards.
Number of health facilities/hospitals	Virological: 27 facilities.	947 facilities.		947 facilities.				~30 ICUs.	274 hospitals.
Case definition used	National.	National.		National.				National.	National.

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Description of national case definition	Based on clinical discretion of GP but recommended definition is: ILI is defined as an individual presenting in primary care with an acute respiratory illness with physician-diagnosed fever or complaint of feverishness in the previous 7 days. Acute is defined as sudden onset of symptoms.	Aggregated automated GP extracts on ILI and ARI consultations based on READ codes. Definition of ILI and ARI are based on clinical discretion.		Aggregated automated GP extracts on ILI and ARI consultations based on READ codes. Definition of ILI and ARI are based on clinical discretion.				Laboratory-confirmed influenza cases admitted to the hospital for intensive care management.	Based on clinical discretion of healthcare professional.
Year introduced	2000	2009		2009				2009	2009
Epidemic threshold	No.	Yes.		Yes.				No.	No.
Sampling strategy methodology	Convenience sampling.							All cases.	All cases.

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Sampling strategy	At start of the season: one sample per week from any patient who presents within seven days of the onset of their symptoms. Once influenza is circulating: up to first 3 patients per week who present within seven days of the onset of their symptoms with the following age group distribution: 1 swab in those aged <15 years; 1 in 15-64 and 1 in 65+.	No samples collected.		No samples collected.					

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Wales

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.	Clinical.	Virological.					Virological.	Virological.
Reporting period	Year-round.		Year-round.						Year-round.
Population covered (%)	11.8%	100.0%	11.8%					100.0%	100.0%
Type of health facilities/hospitals	General practice.	General practice.	General practice.					All wards.	Hospitals; non-sentinel general practices.
Number of health facilities/hospitals	42 facilities.	420 facilities.	42 facilities.					19 hospitals.	19 hospitals and ad-hoc non-sentinel general practices.
Case definition used	National.	National.	National.					Laboratory-confirmed influenza in patients tested with respiratory symptoms.	Laboratory-confirmed influenza in patients tested with respiratory symptoms.
Description of national case definition	GP diagnosed ILI.	GP diagnosed ILI.	GP diagnosed ILI (ECDC ILI definition given as guidance).						
Year introduced	1987	2009	1987					2005	2005
Epidemic threshold	Yes.	No.	No.					No.	No.

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Sampling strategy methodology	All cases.		All cases.					All cases.	All cases.
Sampling strategy	Sentinel GPs are asked to swab all diagnosed ILI cases (around the peak of an epidemic this may be limited to the first 5 patients diagnosed in each practice per week).	All clinically diagnosed cases of ILI.	Sentinel GPs are asked to swab all diagnosed ARI cases (around the peak of an epidemic this may be limited to the first 5 patients diagnosed in each practice per week).					All confirmed cases of influenza in hospital patients for whom respiratory screen tests are requested.	All confirmed cases of influenza in hospital patients (with a very small proportion of non-sentinel GP patients) for whom respiratory screen tests are requested.

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Uzbekistan

Total population: 30,300,446

Income group: lower middle

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.		Clinical.		Integrated clinical and virological.				
Reporting period	Week 40-20.		Week 40-20.		Week 40-20.				
Population covered (%)	0.2%		0.2%		0.0%				
Type of health facilities/hospitals	General practice, polyclinic.		General practice, polyclinic.		Hospital, maternity hospital.				
Number of health facilities/hospitals	1 facility.		1 facility.		3 hospitals.				
Case definition used	WHO 2014.		WHO 2014.		WHO 2014.				
Description of national case definition									
Year introduced	2016		2016		2016				

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Epidemic threshold	No.		No.						
Sampling strategy methodology	Convenience sampling.				Systematic sampling.				
Sampling strategy	Each of 5 designated physicians takes a swab from a single patient meeting the ILI case definition during the first day of the week.				Swabs are taken from all patients meeting the SARI case definition that are hospitalized during the first day of the week.				

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.

Kosovo (in accordance with United Nations Security Council Resolution 1244 [1999])

Total population: ...

Income group: lower middle

Data in the table is from 2017

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Surveillance system	Integrated clinical and virological.			Integrated clinical and virological.	Integrated clinical and virological.				
Reporting period	Week 40-20.			Week 40-20.	Week 40-20.				
Population covered (%)	48.4%				48.4%				
Type of health facilities/hospitals	General practice, paediatric practice, infectious disease, lung disease (all health care levels).			All health care levels.	Paediatric practice, intensive care unit, infectious diseases, lung disease (secondary and tertiary health care levels).				
Number of health facilities/hospitals	5 facilities.			34 facilities.	5 facilities.				
Case definition used	WHO 2014			ECDC, WHO	WHO 2014				

System characteristic	Primary care				Hospital*				Other**
	Influenza-like illness (ILI)		Acute respiratory infection (ARI)		Severe acute respiratory infection (SARI)		Laboratory-confirmed influenza		
	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	Sentinel	Universal	
Description of national case definition									
Year introduced	2012			2017/2018	2014				
Epidemic threshold	No			No	No				
Sampling strategy methodology	Systematic sampling.			Systematic sampling.	All cases.				
Sampling strategy	In Prishtina and Prizren. Samples are collected twice per week on Monday and Thursday.			In Prishtina and Prizren. Samples are collected twice per week on Monday and Thursday.	All SARI cases are sampled at all times (24 hrs/7 days a week).				

See [Notes](#) for more information on influenza surveillance systems and a description of WHO and ECDC case definitions.

* Hospital-based surveillance can be carried out by "Severe acute respiratory infection" (SARI) surveillance or by "laboratory-confirmed influenza" surveillance. Both system types include patients that have been admitted to the hospital. In SARI surveillance, the number of SARI cases is reported and all or a subset are tested for influenza. In laboratory-confirmed surveillance, the cases that have been tested positive for influenza are reported.

** Other: this column includes other surveillance systems that do not fall under primary care and/or hospital-based surveillance.



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