

Influenza Surveillance Country, Territory and Area Profiles 2016

October 2016

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Data

Abbreviations

ARI	Acute respiratory infection
ATC	Anatomical Therapeutic Chemical classification system
CD	Case definition
ECDC	European Centre for Disease Prevention and Control
GP	General practitioner/general practice
HDU	High dependency unit
HMO	Health maintenance organization (Israel)
hMPV	Human metapneumovirus
HPSC	Health Protection Surveillance Centre (Ireland)
ICPC	International Classification of Primary Care
ICU	Intensive care unit
ILI	Influenza-like illness
I-MOVE	Influenza - Monitoring Vaccine Effectiveness) network
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

Source

The data in the profiles are submitted by the country, territory or area and are presented here unedited.

Albania

Total population: 2,889,676

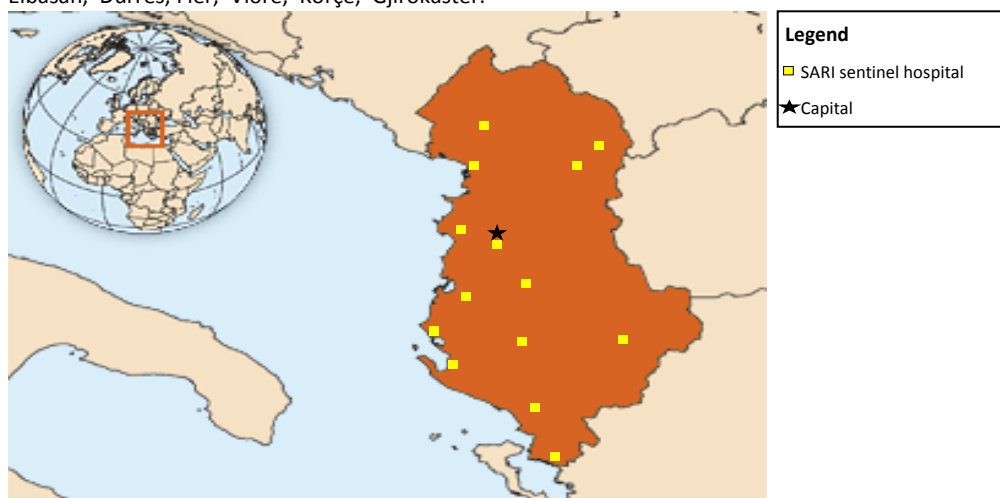
Income group: upper-middle

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	Universal	Sentinel	-	Virological surveillance from other hospitals in the country
Population covered (%)	6%	100%	62%		38%
Number of health facilities/ hospitals	-	-	11		27
Case definition used	WHO 2014	ECDC	WHO 2014		WHO 2014
Year introduced	2009	1999	2009		2009
Type of health facilities/ hospitals	Paediatric practice General practice Polyclinic	General practice Paediatric practice Polyclinic Emergency department	8 Regional Hospitals, 2 University Hospital Centre (Paediatric Hospital, Infectious Diseases Hospital) 1 Lung Diseases Hospital		District hospitals
Epidemic threshold	No	Yes	No		No
Sampling strategy	Two polyclinics in Tirana. Samples are collected 2x/week (Tue, Thu), samples are collected from first 5 patients at each site (paediatric and adult patients)	When increase of cases is noted in different districts or age groups and outbreaks	All SARI cases are sampled at all times (24 hrs/7 days a week)		SARI cases

See [Notes](#).

Map

Locations of sentinel facilities (map of 2014-15 situation). Change in some sites were reported for the 2015-16 season: Sentinel SARI sites are located in different regions of the country – Shkoder, Kukes, Tirana (Paediatric Hospital, Infectious Disease Hospital, Lung Diseases Hospital), Elbasan, Durres, Fier, Vlore, Korçe, Gjirokaster.



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Armenia

Total population: 3,006,154

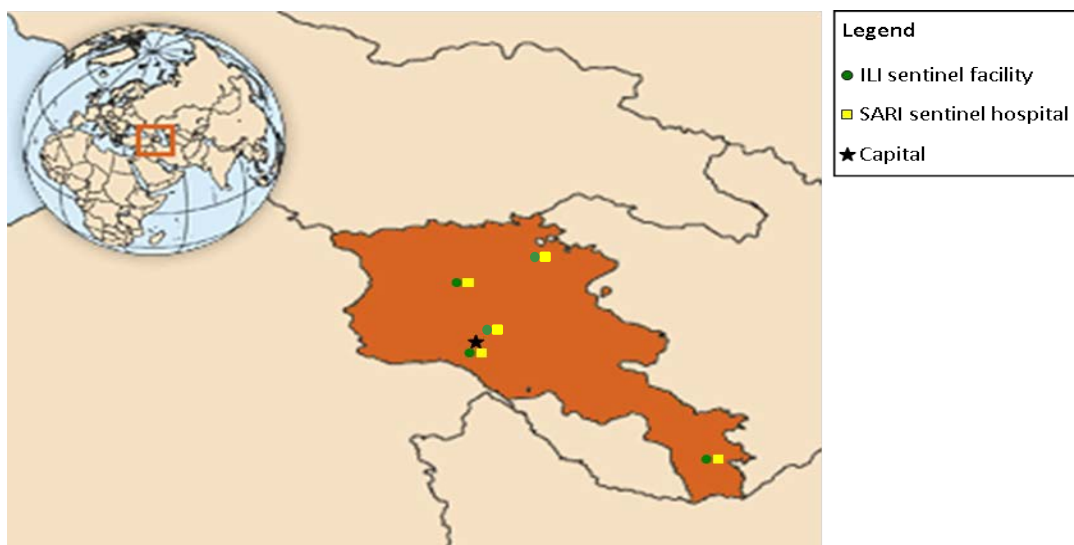
Income group: lower-middle

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	Universal	Sentinel	-	-
Population covered (%)	-	100%	-		-
Number of health facilities/ hospitals	6 facilities	All medical facilities	9 hospitals		-
Case definition used	WHO	ECDC	WHO		-
Year introduced	2010	1990	2010		2009
Type of health facilities/ hospitals	Polyclinic	General practice Polyclinic	Intensive care unit General/internal medicine Paediatric medicine Mother care institute		
Epidemic threshold	No	Yes	No		No
Sampling strategy	-	-	-		-

See [Notes](#).

Map

Locations of sentinel facilities



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Austria

Total population: 8,543,932

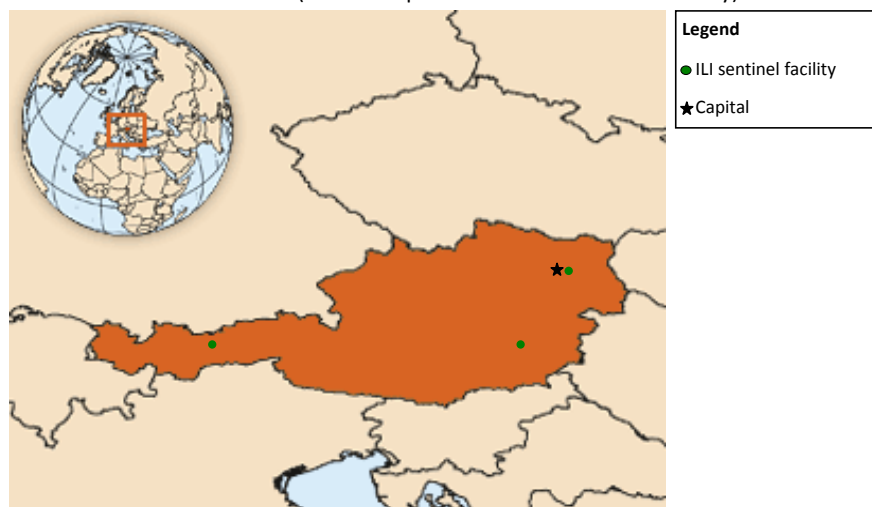
Income group: high

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Influenza-Like illness (ILI)	
Type	Sentinel	-	-	-	Virological samples from hospitals and unaffiliated physicians
Population covered (%)	0.5-1.0%				-
Number of health facilities/ hospitals	50				-
Case definition used	ECDC				ECDC
Year introduced	2000/2001				1952
Type of health facilities/ hospitals	- General practice - Paediatric practice				Paediatricians, paediatric clinic, infectious disease hospital outpatient department and infectious disease hospital department
Epidemic threshold	Yes				
Sampling strategy	It is advised to collect 3-5 specimens per week				No sampling strategy, physicians take nasopharyngeal swabs for diagnostic purposes

See [Notes](#).

Map

Locations of sentinel facilities (one dot represents several facilities in a city)



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Azerbaijan

Total population: 9,629,779

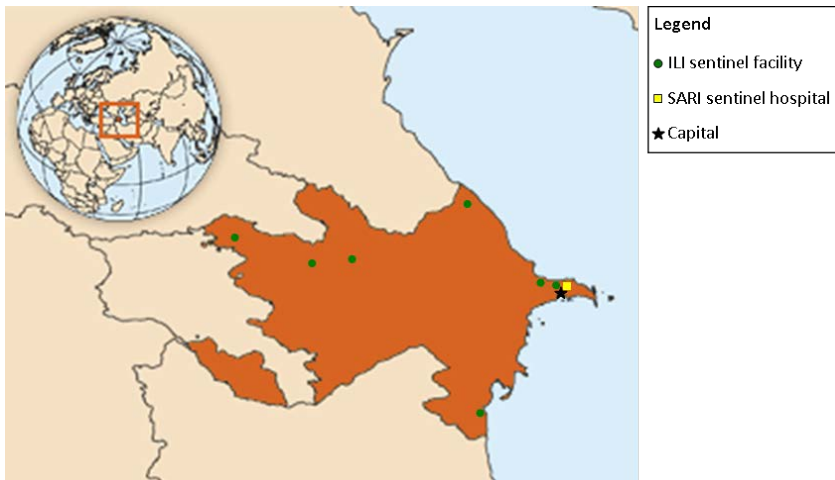
Income group: upper-middle

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	-	Sentinel	-	-
Population covered (%)	20%		2.9%		
Number of health facilities/ hospitals	16 facilities		2 hospitals		
Case definition used	WHO		WHO		
Year introduced	2009		2009		
Type of health facilities/ hospitals	Paediatric practice Polyclinic		Infectious disease ward Pulmonary ward		
Epidemic threshold	Yes		No		
Sampling strategy	3 every ill patient		Each patient		

See [Notes](#).

Map

Locations of sentinel facilities



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Belarus

Total population: 9,500,422

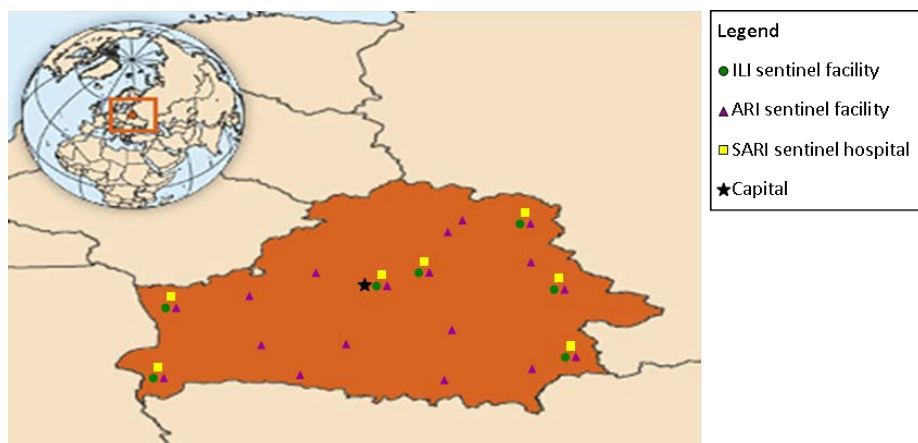
Income group: upper-middle

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	Sentinel	Sentinel	-	Virological surveillance from cases of severe respiratory infection for the purpose of differential diagnostics and treatment from all hospitals
Population covered (%)	5.2%	50%	30%		100%
Number of health facilities/ hospitals	13 facilities	189 facilities	11 hospitals		-
Case definition used	WHO	ECDC	WHO		-
Year introduced	2010	2010	2010		2010
Type of health facilities/ hospitals	Paediatric practice Polyclinic	General practice Paediatric practice Polyclinic Emergency department Infectious disease department	ICU General therapeutic Pediatric Obstetrics and gynecology Infectious disease Pulmonary		ICU General therapeutic Pediatric Obstetrics and gynecology Infectious disease Pulmonary
Epidemic threshold	Yes	Yes	No		No
Sampling strategy	In epidemic period: 10 specimens collected per week by each age group in each site; In non- epidemic period: 10 specimens collected per 2 weeks by each age group in each site				according to the decision of the doctor

See [Notes](#).

Map

Locations of sentinel facilities



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Belgium

Total population: 11,226,322

Income group: high

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	Sentinel	Not reported to FluNewsEurope	-	-
Population covered (%)	1.3%	1.3%			-
Number of health facilities/ hospitals	170	170			-
Case definition used	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 flu syndrome.			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
Type of health facilities/ hospitals	General practice	General practice			Hospitals
Epidemic threshold	Yes	No			No
Sampling strategy	Specimens collected from first 2 ILI cases per week by GP	-			Only cases from patient with severe suspected influenza (see case definition)

See [Notes](#).

Map

Locations of sentinel facilities (not reported)



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Bosnia and Herzegovina

Total population: 3,817,554

Income group: upper-middle

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type *	Universal	Universal	Universal	-	-
Population covered (%)	100%	100%	100%		
Number of health facilities/ hospitals	135 facilities: - 52 facilities Republic of Srpska); - 79 facilities (Federation of Bosnia and Herzegovina); - 4 facilities (Brcko distict of Bosnia and Herzegovina)	135 facilities: - 52 facilities (Republic of Srpska); - 79 facilities (Federation of Bosnia and Herzegovina); - 4 facilities (Brcko Distict of Bosnia and Herzegovina)	30 hospitals: - 10 hospitals (Republic of Srpska); -19 hospitals (Federation of Bosnia and Herzegovina); - 1 hospital (Brcko District of Bosnia and Herzegovina)		
Case definition used	WHO 2011	ECDC	WHO 2011		
Year introduced	- 2009 (Federation of Bosnia and Herzegovina, Republic of Srpska, Brcko District of Bosnia and Herzegovina)	- 2009 (Federation of Bosnia and Herzegovina, Republic of Srpska, Brcko District of Bosnia and Herzegovina)	- 2009 (Federation of Bosnia and Herzegovina, Brcko District of Bosnia and Herzegovina); - 2013 (Republic of Srpska) with current WHO case definition		
Type of health facilities/ hospitals	General practice Paediatric practice Polyclinic Emergency department	General practice Paediatric practice Polyclinic	University Clinical Centers, General hospitals (Intensive care units, Paediatric wards, Infectious disease wards, Respiratory disease wards)		
Epidemic threshold	No	No	No		
Sampling strategy	No (Universal surveillance-depend on the availability and capacity of the reference laboratory)	-	All SARI cases are sampled at all times (24 hrs/7 days a week) - depending on the availability and capacity of the reference laboratory		

Universal in the Republika Srpska and in the Federation of Bosnia and Herzegovina (since 2009). Aggregated data from the level of Bosnia and Herzegovina are reported to Flu News Europe.

See [Notes](#).

Map

Locations of sentinel facilities (not reported)



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Bulgaria

Total population: 7,223,937

Income group: upper-middle

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	-	Sentinel	-	-	Virological surveillance from 40 hospitals in the country
Population covered (%)		5.3%			-
Number of health facilities/ hospitals		208			40
Case definition used		ECDC			ECDC - ILI and ARI case definition
Year introduced		2001			1958
Type of health facilities/ hospitals		General practices			General practice (GP); Polyclinic; ICU/critical care; Infectious disease hospital and ward; Paediatric hospital and ward; Pulmonary ward; General hospital
Epidemic threshold		Yes			No
Sampling strategy		-			All ILI/SARI cases are sampled at all times. ARI cases are sampled during respiratory disease outbreaks.

See [Notes](#).

Map

Locations of sentinel facilities (not reported). The sentinel health facilities are situated in all 28 major cities - regional centers of Bulgaria.



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Croatia

Total population: 4,255,853

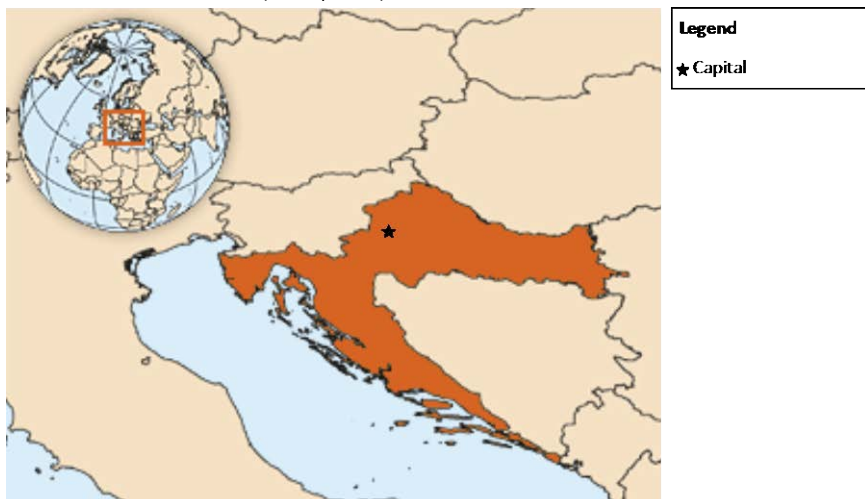
Income group: high

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Universal	-	-	-	-
Population covered (%)	100%				
Number of health facilities/ hospitals	-				
Case definition used	ECDC				
Year introduced	1975				
Type of health facilities/ hospitals	General practice Paediatric practice Polyclinic Emergency department Hospital				
Epidemic threshold	No				
Sampling strategy	-				

See [Notes](#).

Map

Locations of sentinel facilities (not reported)



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Cyprus

Total population: 861,900

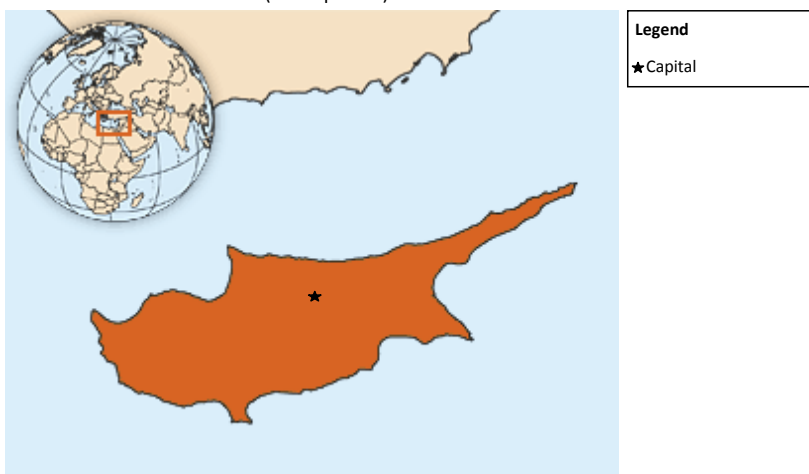
Income group: high

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	Sentinel	-	-	-
Population covered (%)	80%	80%			
Number of health facilities/ hospitals	54	54			
Case definition used	Sudden appearance of fever >39°C for at least 2 days AND respiratory symptoms, malaise, myalgia, headache.	No case definition used			
Year introduced	2003	2003			
Type of health facilities/ hospitals	Paediatric outpatient department of public hospital; Adult outpatient department of public hospital; Office of Primary Health Care Paediatrician and Adult Physician in Private Sector	Paediatric outpatient department of public hospital; Adult outpatient department of public hospital; Office of Primary Health Care Paediatrician and Adult Physician in Private Sector			
Epidemic threshold	No	No			
Sampling strategy	5 random specimens per week per reporting centre	5 random specimens per week per reporting centre			

See [Notes](#).

Map

Locations of sentinel facilities (not reported)



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Czech Republic

Total population: 10,542,666

Income group: high

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	Sentinel	-	-	Upon request from non-sentinel site
Population covered (%)	~50%	~50%			-
Number of health facilities/ hospitals	2,230 general practitioners and 1,240 paediatricians	2,230 general practitioners and 1,240 paediatricians			-
Case definition used	ECDC	ECDC			ECDC
Year introduced	2004	1956			1956
Type of health facilities/ hospitals	General practice Paediatric practice	General practice Paediatric practice			-
Epidemic threshold	No	Yes			No
Sampling strategy	One sample from general practice (e.g. adults) and one sample from paediatric practice (e.g. age up to 18 years) per week from all regions are collected during influenza season (e.g. week 40-week 20 of next season)	One sample from general practice (e.g. adults) and one sample from paediatric practice (e.g. age up to 18 years) per week from all regions are collected during influenza season (e.g. week 40-week 20 of next season)			Upon request from non-sentinel site

See [Notes](#).

Map

Locations of sentinel facilities (not reported)



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Denmark

Total population: 5,646,899

Income group: high

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	-	-	-	Data on national influenza tests are obtained weekly from a national microbiology database. Clinical microbiological departments at hospitals send positive influenza samples to the NIC for further characterization for virological surveillance.
Population covered (%)	4%				National data for influenzatest
Number of health facilities/ hospitals	140				
Case definition used	Sudden onset of fever, muscle pain and respiratory tract symptoms				
Year introduced	1994				
Type of health facilities/ hospitals	General practice				
Epidemic threshold	Yes				No
Sampling strategy	GPs are asked to swab the first 5 ILI patients they see. 5 Sample kits are sent to 1/3 of all GPs at three different time points in the season.				

See [Notes](#).

Map

Locations of sentinel facilities (not reported)



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Estonia

Total population: 1,316,203

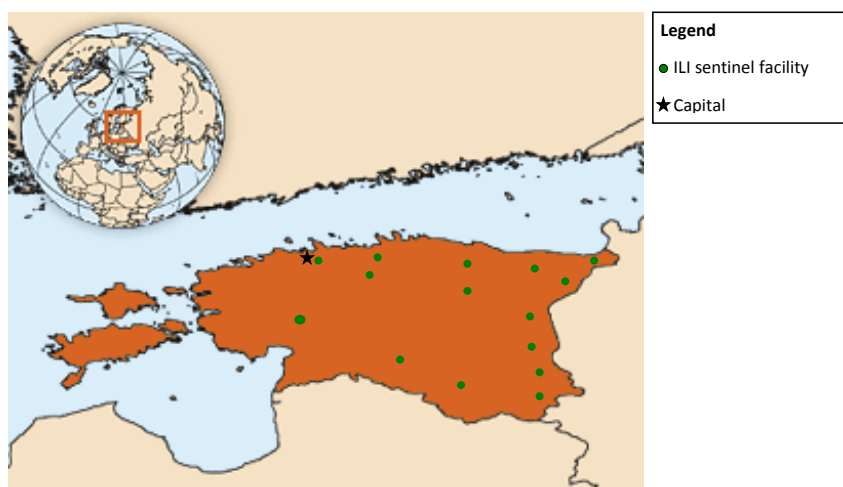
Income group: high

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	Universal	-	-	Virological surveillance from 3 health facilities in the country
Population covered (%)	13,6%	100%			-
Number of health facilities/ hospitals	16 facilities (80 medical doctors)	470 facilities (925 medical doctors)			3
Case definition used	ECDC	ECDC			-
Year introduced	2006	1954			2000
Type of health facilities/ hospitals	General practice Polyclinic Family doctor	General practice Paediatric practice Polyclinic Family doctor			General hospitals including children hospital
Epidemic threshold	Yes	No			No
Sampling strategy	Each sentinel site collected up to 10 specimens per week according ECDC case definition	-			

See [Notes](#).

Map

Locations of sentinel facilities



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Finland

Total population: 5,479,660

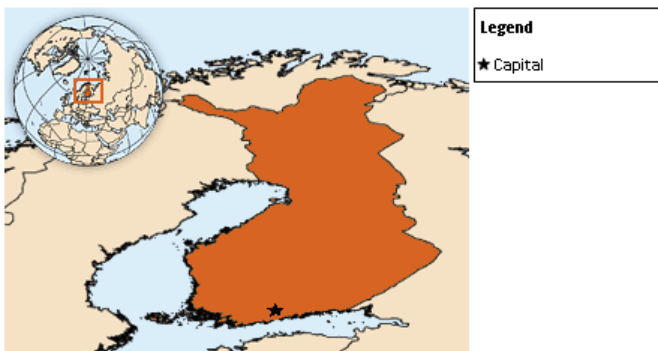
Income group: high

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	Universal	-	Universal (voluntary)	Universal
Population covered (%)	Nearly 100% (ILI-visits)	Nearly 100% (ILI-visits)		-	100%
Number of health facilities/ hospitals	About 160 health care centres report ILI-visits, 13 of them also collect virological specimens 18 health care centres of garrisons collect virological specimens	About 250 health care centres report ILI-visits, 13 of them also collect virological specimens 18 health care centres of garrisons collect virological specimens		13	All hospitals and outpatient clinics
Case definition used	ECDC	ECDC		ARI admitted to intensive care unit	No case definition
Year introduced	2013	2013		2014	1995
Type of health facilities/ hospitals	General practice	General practice		Intensive care unit	All hospitals and outpatient clinics
Epidemic threshold	Yes	No		No	No
Sampling strategy	Up to 5 specimens are collected per week.	Up to 5 specimens are collected per week.		clinical basis	clinical basis

See [Notes](#).

Map

Locations of sentinel facilities (not available as system is universal)



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France

Total population: 64,121,248

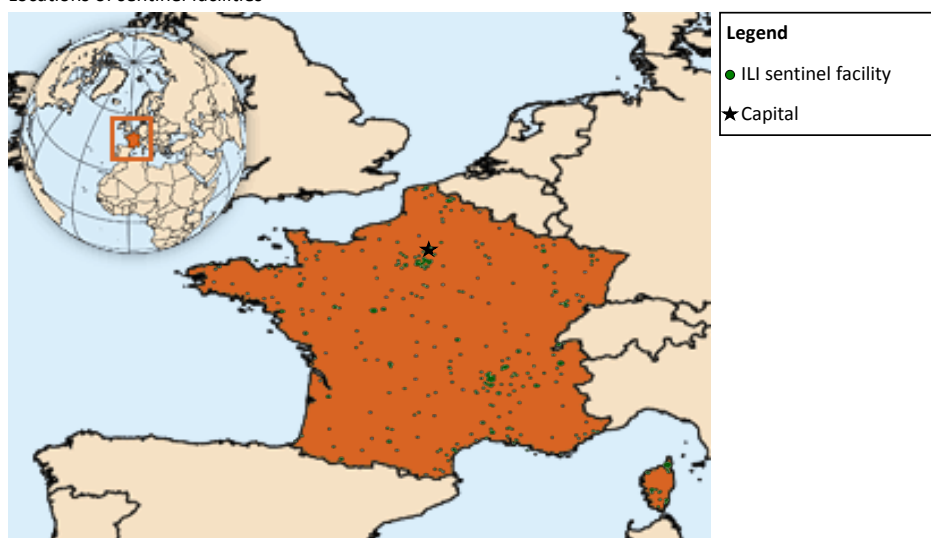
Income group: high

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	-	-	Universal	Virological surveillance from 44 hospitals in the country
Population covered (%)	-			~100%	-
Number of health facilities/ hospitals	-			-	44 hospitals
Case definition used	Sudden onset of fever >39°C with respiratory symptoms and myalgia			Laboratory-confirmed influenza	no
Year introduced	1984			2009	1994
Type of health facilities/ hospitals	General practice			Intensive care unit	General hospitals
Epidemic threshold	Yes			No	No
Sampling strategy	First 2 ILI cases of the week			>90% of cases sampled	No sampling strategy. All the virological and serological data obtained from in-patients sampled

See [Notes](#).

Map

Locations of sentinel facilities



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Georgia

Total population: 3,727,000

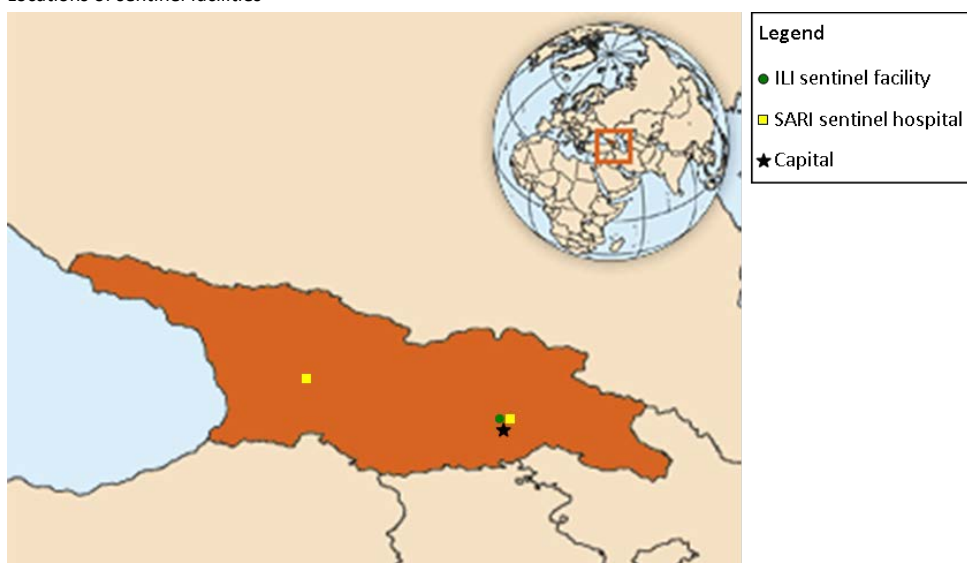
Income group: lower-middle

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	-	Sentinel	-	Virological testing is performed for unusual cases of SARI
Population covered (%)	1.6%		-		-
Number of health facilities/ hospitals	1 facility		5 hospitals (Children's hospital in Tbilisi and Kutaisi sentinel sites)		-
Case definition used	WHO 2014		WHO 2014		PAHO/WHO 2014, unusual SARI
Year introduced	2007		2007		2015
Type of health facilities/ hospitals	General practice Paediatric practice Polyclinic		ICU Internal medicine Paediatric medicine Maternity ward Infectious disease ward Respiratory disease ward Therapeutic/chronic disease ward		Most non-sentinel data come from SARI cases collected at the sentinel hospitals in Batumi, Akhaltsikhe and Zugdid (virological surveillance only)
Epidemic threshold	No		No		No
Sampling strategy	Every 3 rd ILI patient on Tuesday and Thursday		Every SARI patient on Tuesday and Thursday		Every unusual case of SARI

See [Notes](#).

Map

Locations of sentinel facilities



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October 2016

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Germany

Total population: 80,646,264

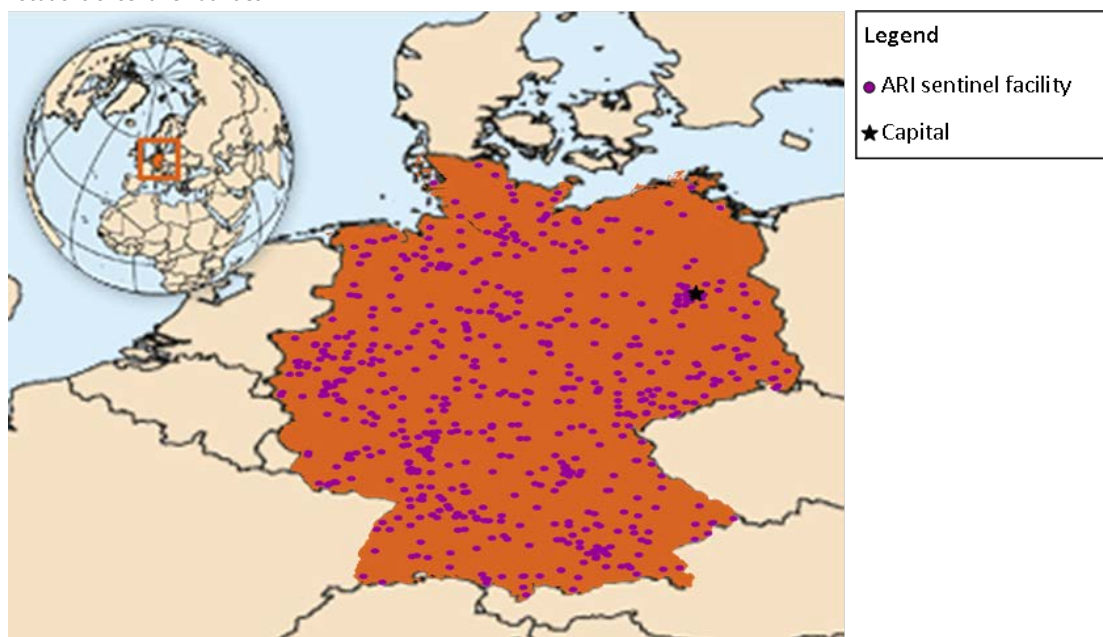
Income group: high

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	-	Sentinel	-	-	Virological samples sent to the NIC from different sources other than sentinel
Population covered (%)		>1%			-
Number of health facilities/ hospitals		650 facilities			-
Case definition used		Patients with pharyngitis, bronchitis or pneumonia (with or without fever)			-
Year introduced		1992			1998
Type of health facilities/ hospitals		General practice Paediatric practice			-
Epidemic threshold		Yes			No
Sampling strategy		Specimens collected from the first ILI (ECDC cd) patients per week in different age groups			-

See [Notes](#).

Map

Locations of sentinel facilities



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Greece

Total population: 11,000,777

Income group: high

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	-	-	-	-
Population covered (%)	~3%				
Number of health facilities/ hospitals	197 facilities				
Case definition used	ECDC				
Year introduced	2004 (revised in 2014)				
Type of health facilities/ hospitals ⁷	Primary Health Care Center National Organization for the Provision of Health Care Services (NOPHCS) Unit Private practice				
Epidemic threshold	No				
Sampling strategy	No sampling is performed (during the 2015-2016 season).				

See [Notes](#).

Map

Locations of sentinel facilities (Not reported)



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Hungary

Total population: 9,889,540

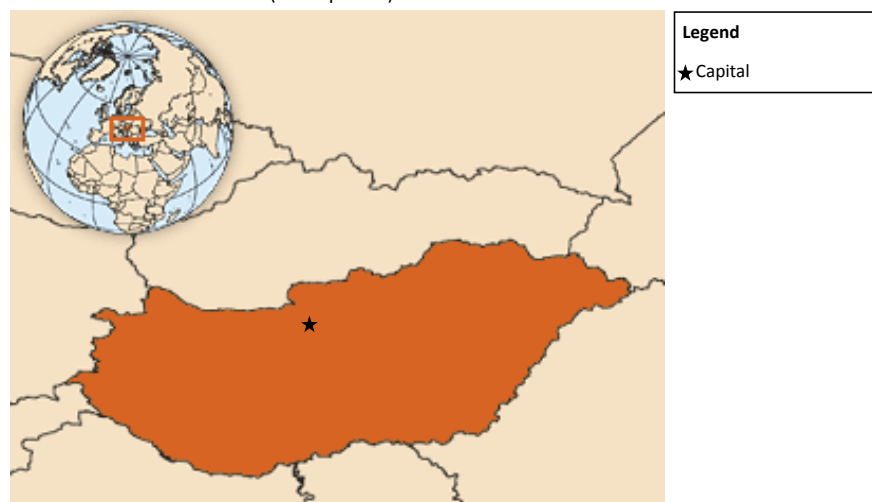
Income group: upper-middle

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	-	-	-	-
Population covered (%)	>20%				-
Number of health facilities/ hospitals	~1,400				-
Case definition used	ECDC				
Year introduced	2005				
Type of health facilities/ hospitals	General practice Paediatric practice				Hospitals
Epidemic threshold	Yes				No
Sampling strategy	Advise to collected 2 specimens of ILI patients per week by site				Diagnostic purposes

See [Notes](#).

Map

Locations of sentinel facilities (not reported)



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Iceland

Total population: 327,318

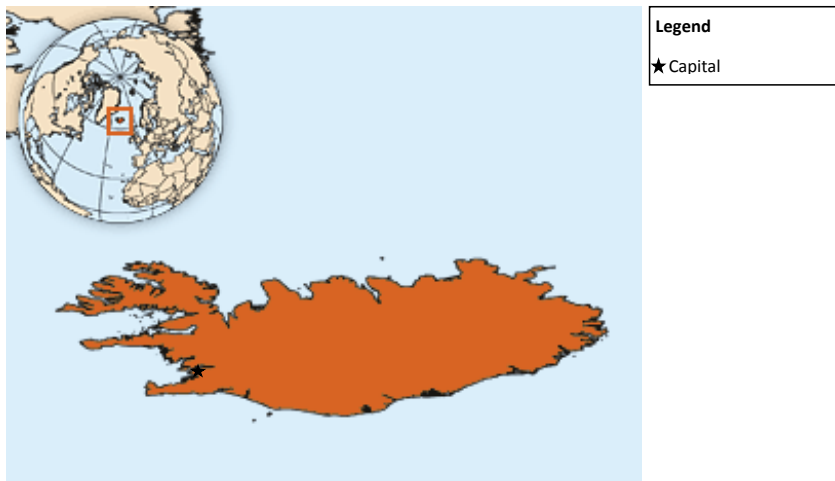
Income group: high

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Universal	-	-	-	-
Population covered (%)	100%				
Number of health facilities/ hospitals	-				
Case definition used	ECDC				
Year introduced	-				
Type of health facilities/ hospitals	General practice Emergency department				
Epidemic threshold	No				
Sampling strategy	-				

See [Notes](#).

Map

Locations of sentinel facilities (not reported)



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Ireland

Total population: 4,675,164

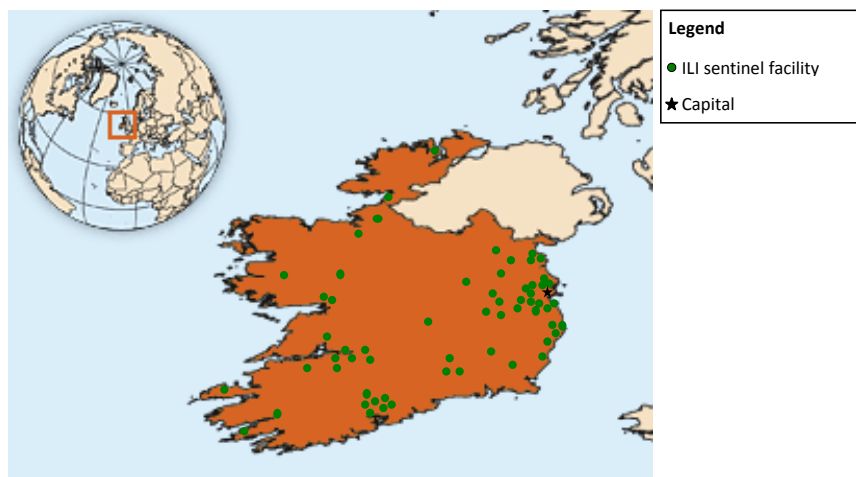
Income group: high

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	-	-	Universal	All respiratory specimens referred to National Virus Reference Laboratory which are tested for influenza.
Population covered (%)	5.8%			100%	-
Number of health facilities/ hospitals	61 facilities			58 acute care public and private hospitals	-
Case definition used	ECDC			Laboratory-confirmed influenza	ECDC
Year introduced	2000			2009	2000 (HPSC began surveillance in 2000)
Type of health facilities/ hospitals	General Practice			All acute hospitals	Mainly hospitals and some GPs (excluding sentinel GPs)
Epidemic threshold	Yes			No	No
Sampling strategy	For sentinel GPs participating in IMOVE study: up to 5 ILI patients per week aged <65 years and all patients aged ≥65 years should be tested. All other sentinel GPs swab one ILI patient per week.			No sampling strategy	No sampling strategy

See [Notes](#).

Map

Locations of sentinel facilities



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Israel

Total population: 8,215,667

Income group: high

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	-	-	-	Virological surveillance from one hospitals in the country (influenza, RSV, hMPV, Adenovirus, Parainfluenza-3)
Population covered (%)	25%				-
Number of health facilities/ hospitals	Community clinics of the 2 nd largest HMO in the country.				1
Case definition used	Patients diagnosed with ILI. For the virological surveillance, we make use of sentinel network of 26 clinics. Nasopharyngeal swabs are collected from patients presenting with acute fever of at least 37.8 degrees Celsius accompanied with at least one of the following symptoms: runny nose, sore throat, cough, myalgia.				none
Year introduced	2000				2012/2013 winter
Type of health facilities/ hospitals	General practice Paediatric practice				Tertiary medical centre
Epidemic threshold	Yes				Not relevant
Sampling strategy	All patients diagnosed with ILI. Swabs are taken from patients at their first or second day of illness.				Hospitalized cases with ARI

See [Notes](#).

Map

Locations of sentinel facilities (not reported)



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Italy

Total population: 59,788,668

Income group: high

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	-	-	-	-
Population covered (%)	2%				
Number of health facilities/ hospitals	900				
Case definition used	Sudden onset AND fever >38°C AND at least one of the following systemic symptoms: headache, malaise, chills, sweats, fatigue; AND at least one of the following respiratory symptoms: cough, sore throat, nasal obstruction.				
Year introduced	1999				
Type of health facilities/ hospitals	General practice Paediatric practice				
Epidemic threshold	Yes				
Sampling strategy	-				

See [Notes](#).

Map

Locations of sentinel facilities (not reported)



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Kazakhstan

Total population: 17,371,620

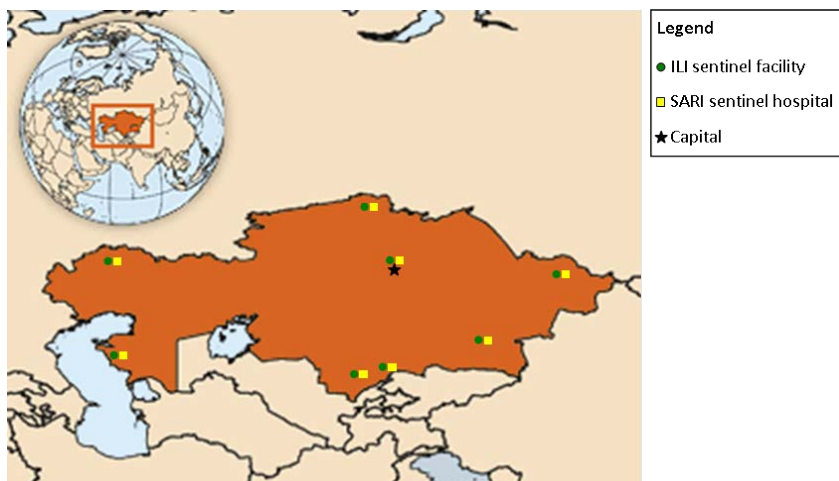
Income group: upper-middle

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	Universal	Sentinel	-	-
Population covered (%)	9.4%	100%	-		
Number of health facilities/ hospitals	32 facilities	-	25 hospitals		
Case definition used	Cases of acute respiratory viral diseases accompanied by fever > 38°C and cough, which are observed at least once within 7 days from the onset of the disease	-	WHO 2011		
Year introduced	2008	-	2010		
Type of health facilities/ hospitals	Paediatric polyclinic Adult polyclinic	Paediatric practice Polyclinic Infectious disease hospital Public hospitals Pulmonary dep.	General/internal Paediatric Infectious disease ward		
Epidemic threshold	No	Yes	No		
Sampling strategy	Sampling is carried out on a weekly basis from patients with ILI (age > 1 year) and onset illness <72 hours)	Monthly	Sampling is carried out on SARI patients (age > 1 year) and onset illness <72 hours, for persons >18 years not more than 7 days from the onset of the disease; Samples taken for max 1 patient per day from each age group.		

See [Notes](#).

Map

Locations of sentinel facilities



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Kyrgyzstan

Total population: 5,843,617

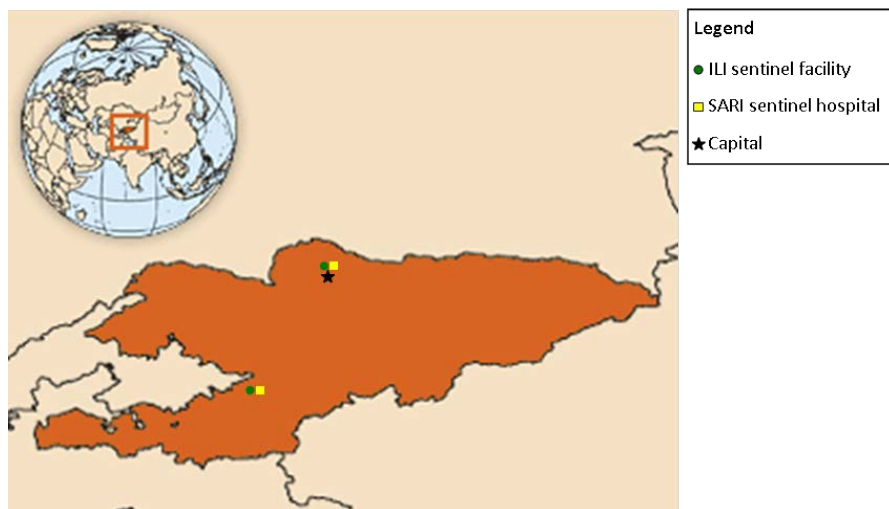
Income group: lower-middle

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	Universal	Sentinel	-	-
Population covered (%)	2.8%	100%	-		
Number of health facilities/ hospitals	3 facilities	-	4 hospitals		
Case definition used	WHO	WHO	WHO		
Year introduced	2009	1950	2008		
Type of health facilities/ hospitals	General practice Polyclinic	General practice Polyclinic	Intensive care unit Infectious disease ward Pulmonary ward		
Epidemic threshold	No	Yes	Yes		
Sampling strategy	-	-	-		

See [Notes](#).

Map

Locations of sentinel facilities



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Latvia

Total population: 1,989,354

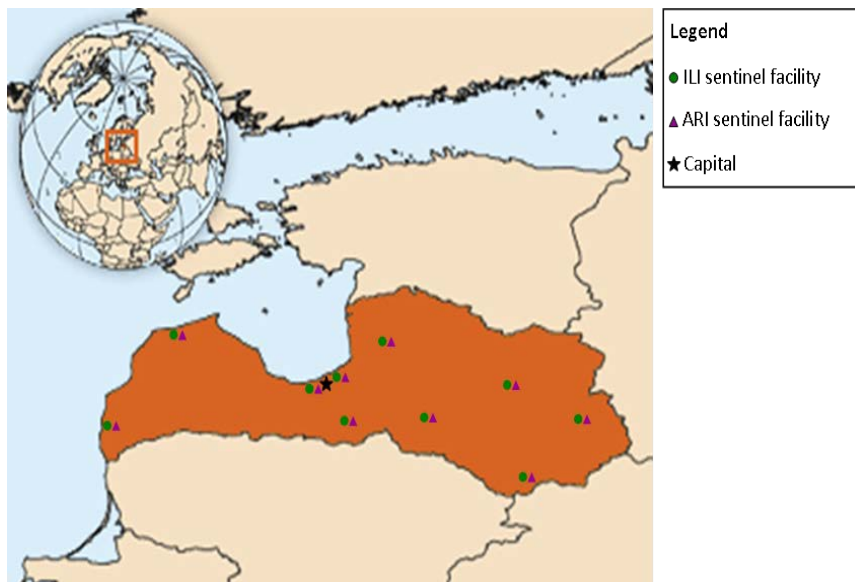
Income group: high

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	Sentinel	-	-	Virological surveillance mainly from hospitals and also outpatient facilities in the country
Population covered (%)	5.2%	5.2%			-
Number of health facilities/ hospitals	72 facilities	72 facilities			-
Case definition used	ECDC	ECDC			ECDC
Year introduced	1995	1995			1995
Type of health facilities/ hospitals	General practice Paediatric practice	General practice Paediatric practice			Any type of hospitals and outpatients facilities
Epidemic threshold	Yes	No			No
Sampling strategy	Preferable ILI cases are sampled, including all age groups; 50-100 specimens per season mainly in Riga (Capital)	Preferable ILI cases are sampled, including all age groups 50-100 specimens per season mainly in Riga (Capital)			Hospitalised severe ILI cases are sampled at any time (24 hrs/7 days per week)

See [Notes](#).

Map

Locations of sentinel facilities



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Lithuania

Total population: 2,916,798

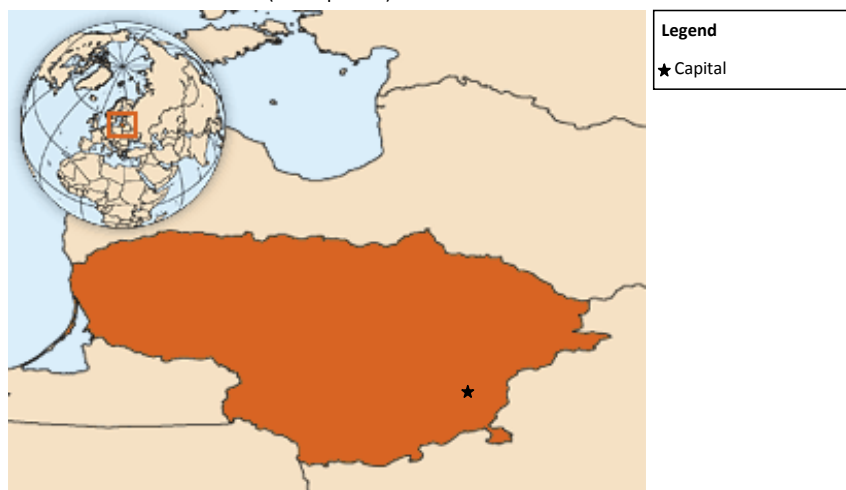
Income group: high

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	Sentinel	-	-	-
Population covered (%)	2.5%	2.5%			
Number of health facilities/ hospitals	86 medical doctors	86 medical doctors			
Case definition used	ECDC	-			
Year introduced	2004	2004			
Type of health facilities/ hospitals	General practice	General practice			
Epidemic threshold	Yes	Yes			
Sampling strategy	-	Doctor decides when to take a sample and from which age group			

See [Notes](#).

Map

Locations of sentinel facilities (not reported)



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Luxembourg

Total population: 556,573

Income group: high

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	Sentinel	-	-	-
Population covered (%)	-	-			
Number of health facilities/ hospitals	15	15			
Case definition used	ECDC	ECDC			
Year introduced	2003	2003			
Type of health facilities/ hospitals	General practice Paediatric practice	General practice Paediatric practice			
Epidemic threshold	Yes	No			
Sampling strategy	All patients are sampled in principle	-			

See [Notes](#).

Map

Locations of sentinel facilities (not reported)



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Malta

Total population: 427,421

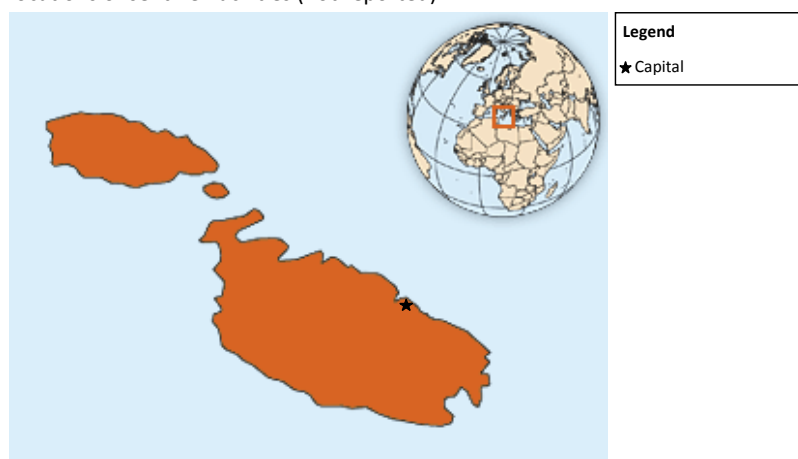
Income group: high

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	-	-	-	Virological data from admissions with SARI at our only state hospital from some respiratory physicians
Population covered (%)	-				All hospital admissions
Number of health facilities/ hospitals	6 GPs				Only one state hospital in Malta
Case definition used	WHO 2014				WHO 2014
Year introduced	2003				2009
Type of health facilities/ hospitals	General practice				Main state hospital
Epidemic threshold	No				No
Sampling strategy	Patients that accept to have specimen taken by GP				At discretion of hospital respiratory physician or paediatrician

See [Notes](#).

Map

Locations of sentinel facilities (not reported)



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Montenegro

Total population: 625,292

Income group: upper-middle

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Universal	-	Universal	-	-
Population covered (%)	100%		100%		
Number of health facilities/ hospitals	29 health facilities		8 hospitals		
Case definition used	ECDC		WHO 2011		
Year introduced	2009		2016		
Type of health facilities/ hospitals	General practice Paediatric practice Polyclinic		General hospitals Clinical Centre of Montenegro		
Epidemic threshold	No		No		
Sampling strategy	ILI/ARI patient		All SARI cases are sampled at all times		

See [Notes](#).

Map

Locations of sentinel facilities (not reported because system is universal)



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Netherlands

Total population: 16,868,020

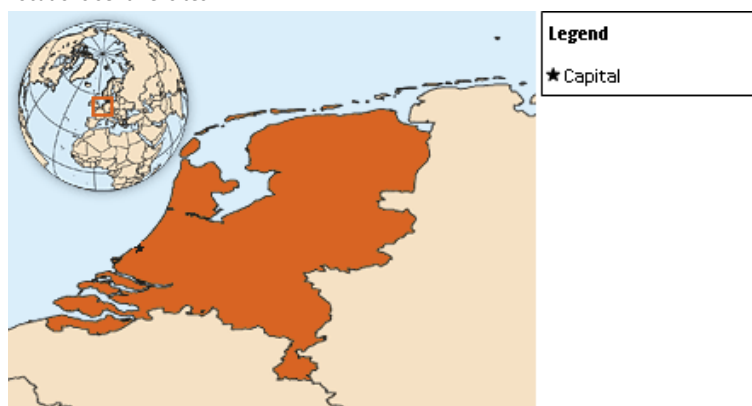
Income group: high

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	Sentinel	Sentinel	Sentinel	Virologic surveillance from 21 virology laboratories in the country
Population covered (%)	0.7%	7%	6%	3%	-
Number of health facilities/ hospitals	40	280	2	1	21 virology laboratories
Case definition used	Acute onset AND rectal temperature >38°C AND at least one of the following symptoms: cough, coryza, sore throat, frontal headache, retrosternal pain, myalgia	ICPC codes R74, R75, R77, R78, R80	WHO 2014	WHO 2014	All influenza-virus positive laboratory results
Year introduced	1970; Testing of specimens introduced in 1994.	2015	2015	2015	-
Type of health facilities/ hospitals	General practice	General practice	1 general hospital, 1 university medical centre	1 general hospital	Virology laboratories
Epidemic threshold	Yes	No	No	No	No
Sampling strategy	All ILI patients ≥65 years and first two ILI patients <65 years presenting Monday-Wednesday. If no ILI patients Mo-We then first two ILI or ARI patients presenting Thursday – Sunday. In absence of ILI cases, samples are collected from ARI cases.	No sampling, syndromic surveillance only	No sampling, syndromic surveillance only	All SARI patients ≥65 years of age during influenza season	Based on diagnostic requests from physicians, no national sampling strategy

See [Notes](#).

Map

Locations sentinel sites.



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Norway

Total population: 5,147,970

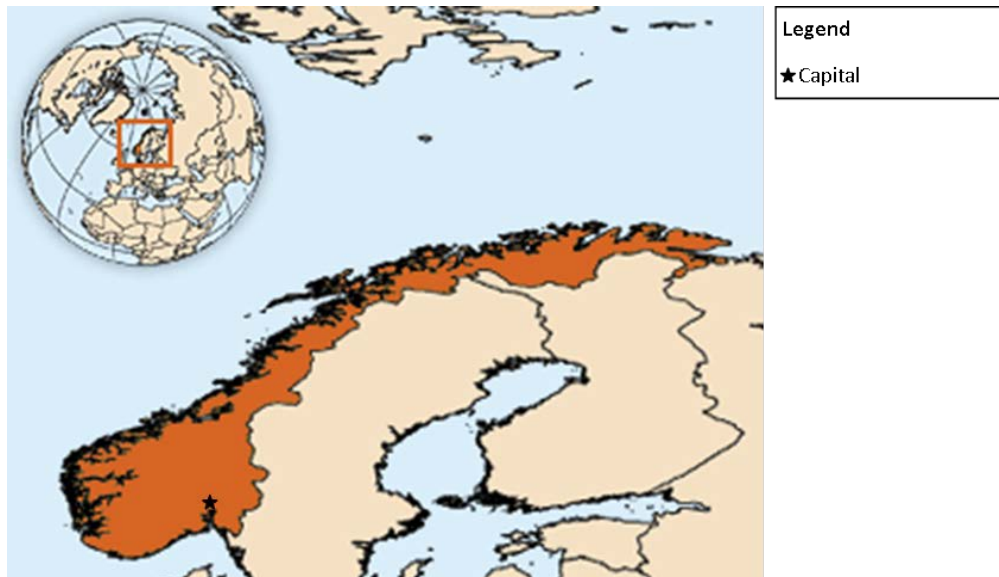
Income group: high

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Universal	-	-	-	-
Population covered (%)	100%				
Number of health facilities/ hospitals	All general practices All emergency clinics in primary health care				
Case definition used	-				
Year introduced	-				
Type of health facilities/ hospitals	General practice Emergency clinic in primary health care				
Epidemic threshold	Yes				
Sampling strategy	-				

See [Notes](#).

Map

Locations of sentinel facilities (not reported)



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Poland

Total population: 38,619,976

Income group: high

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	-	-	-	Virological surveillance from hospitals in the country
Population covered (%)	19%				100 %
Number of health facilities/ hospitals	625				-
Case definition used	ECDC				ECDC
Year introduced	2004				1951
Type of health facilities/ hospitals	General practice				General practice
Epidemic threshold	No				No
Sampling strategy	Advised specimens collected 7 days a week (by age, site)				Advised specimens collected 7 days a week (by age, site)

See [Notes](#).

Map

Locations of sentinel facilities (not reported)



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Portugal

Total population: 10,402,343

Income group: high

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	-	-	-	Virological surveillance from 91 hospitals in the country
Population covered (%)	2.1%				-
Number of health facilities/ hospitals	124 general practitioners				91
Case definition used	ECDC				ECDC
Year introduced	1989				1989
Type of health facilities/ hospitals	General practice				Hospital/General practice
Epidemic threshold	Yes				No
Sampling strategy	GP are advised to select all ILI cases				All cases are sampled

See [Notes](#).

Map

Locations of sentinel facilities



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Republic of Moldova

Total population: 3,558,566

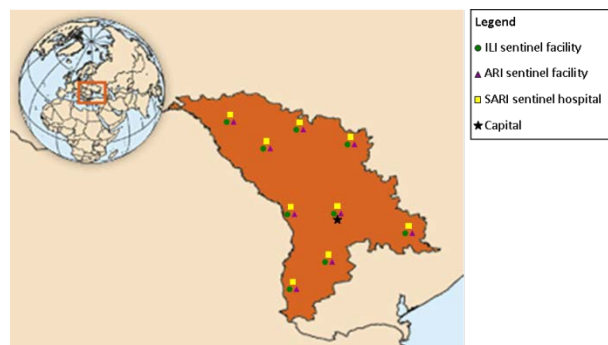
Income group: lower-middle

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	Sentinel	Sentinel	-	Any health facility that is not covered by sentinel surveillance
Population covered (%)	11%	11%	43%		57%
Number of health facilities/ hospitals	10 facilities		17 hospitals		492 facilities
Case definition used	ECDC	ECDC	WHO <2011		ILI – ECDC case def. ARI – WHO case def. SARI – WHO <2011 case def.
Year introduced	2004	1995	2009/changed 2015		2009
Type of health facilities/ hospitals	Polyclinic	Polyclinic	Intensive care unit General/internal medicine Paediatric medicine Infectious disease and Respiratory disease ward Therapeutic/chronic disease ward		Intensive care unit General/internal medicine Paediatric medicine Infectious disease and Respiratory disease ward Therapeutic/chronic disease ward Polyclinic
Epidemic threshold	No	Yes	No		No
Sampling strategy	Weekly 12 samples are collected from the first patient with case definitions symptoms in 10 facilities regardless of age group beginning with week 40 till week 20, inclusive year round in case of their existence.	See ILI.	20 samples are collected weekly from the patients with SARI symptoms in 17 hospitals from start till the end of the season (week 40 – week 20), inclusive year round in case of their existence.		Any sample collected from patients with severe evolution of ILI, ARI and SARI, in outbreaks, patients from high risk group regardless of age group and period of the year.

See [Notes](#).

Map

Locations of sentinel facilities



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Romania

Total population: 19,651,554

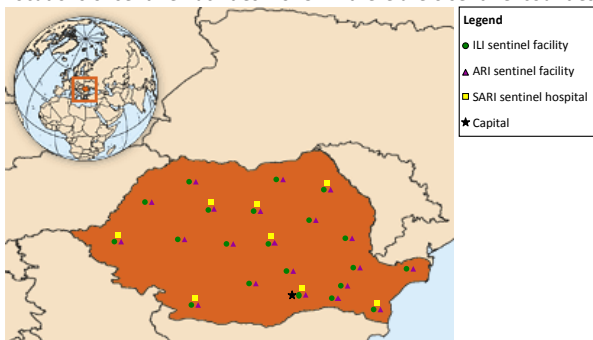
Income group: upper-middle

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	Sentinel	Sentinel	-	For IL/ARI: Virological surveillance from all health care providers in the country
Population covered (%)	2%	2%	22%		-
Number of health facilities/ hospitals	192	192	20		-
Case definition used	ECDC and WHO 2014	ECDC	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 : ECDC and WHO 2014
Year introduced	2014	2001	2009		-
Type of health facilities/ hospitals	General practice	General practice	Intensive care unit General/internal medicine Paediatric medicine Infectious disease ward Respiratory disease ward		-
Epidemic threshold	Yes	Yes	No		No
Sampling strategy	On Tuesdays (from week 40-onset influenza season) swabs from all cases presented and who meet the ILI case definition are collected; after the onset of the season the algorithm is established by the National Center, 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.		-

See [Notes](#).

Map

Locations of sentinel facilities: For SARI there are 6 sentinel counties and Bucuresti Municipality



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Russian Federation

Total population: 143,429,440

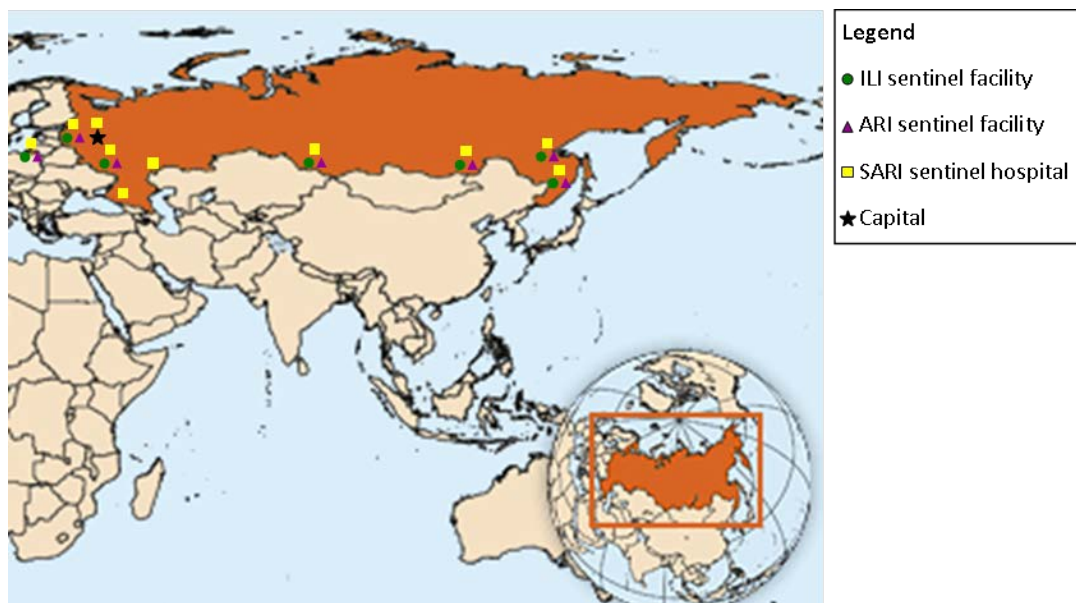
Income group: high

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	Sentinel	Sentinel	-	Traditional virological surveillance from great number of hospitals and polyclinics in the country
Population covered (%)	-	-	-		About 35% of population
Number of health facilities/ hospitals	14 facilities	14 facilities	19 hospitals (10 laboratories confirmed influenza by PCR)		58 laboratories confirmed influenza by PCR testing of clinical samples obtained from different local hospitals and other health facilities
Case definition used	WHO	WHO	WHO		National
Year introduced	2010	2010	2010		1971
Type of health facilities/ hospitals	Polyclinic (GP)	Polyclinic (GP)	Intensive care unit Paediatric medicine Infectious disease and respiratory disease wards		Intensive care unit; general/internal medicine Paediatric medicine Infectious disease and Respiratory disease ward
Epidemic threshold	No	No	No		Yes
Sampling strategy	The average number of samples taken from ILI/ARI patients taken is 29 per week; all age groups are included.	The average number of samples taken from ILI/ARI patients taken is 29 per week; all age groups are included.	All SARI cases are sampled. The average number of SARI cases sampled is 26 per week; all age groups are included.		Not less than 20-50 samples per week tested (depending on epidemiological situation)

See [Notes](#).

Map

Locations of sentinel facilities



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Serbia

Total population: 7,164,132

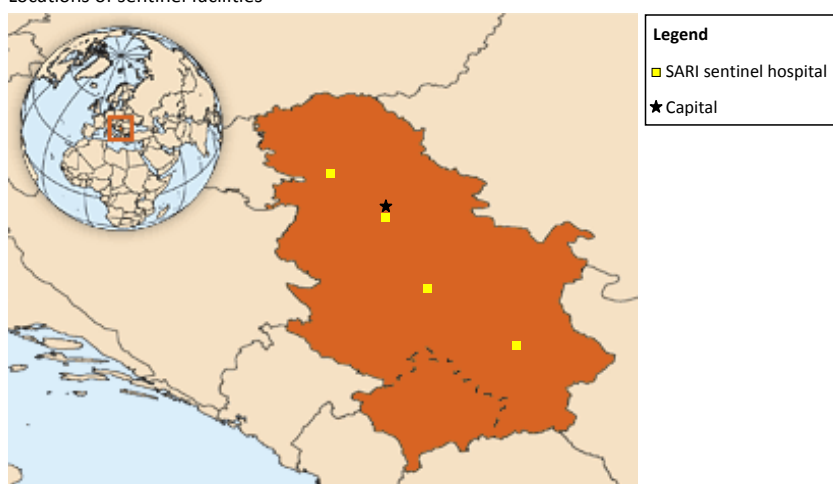
Income group: upper-middle

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Universal	-	Sentinel	-	-
Population covered (%)	100%		-		
Number of health facilities/ hospitals	158		11		
Case definition used	WHO 2011		WHO 2011		
Year introduced	2006		2009		
Type of health facilities/ hospitals	General practice Paediatric practice		Intensive care unit General/internal medicine Paediatric medicine Infectious disease ward Respiratory disease ward		
Epidemic threshold	Yes		No		
Sampling strategy	ILI cases are sampled mostly in the first 4 days in the week, during the working hours.		Sentinel SARI cases are sampled mostly in the first 4 days in the week, during the working hours.		

See [Notes](#).

Map

Locations of sentinel facilities



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Slovakia

Total population: 5,422,861

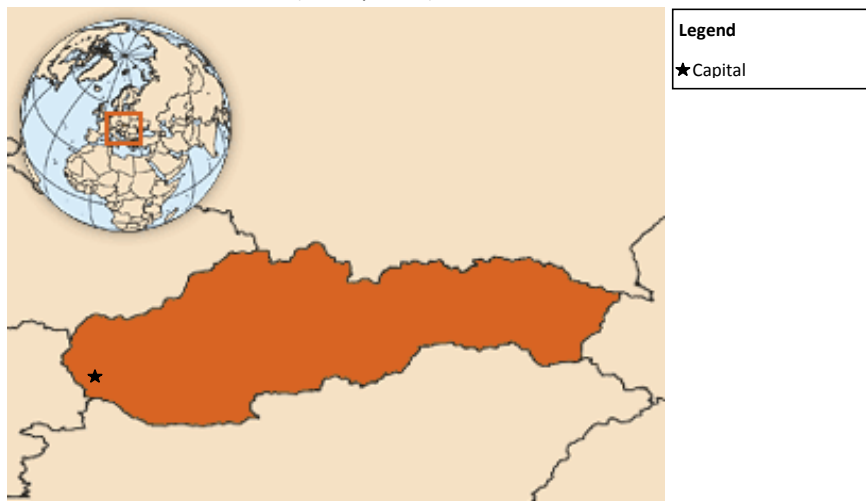
Income group: high

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	Sentinel	Universal	-	-
Population covered (%)	-	-	100%		
Number of health facilities/ hospitals	88	88	74		
Case definition used	ECDC	ECDC	WHO <2011		
Year introduced	2002	2002	2009		
Type of health facilities/ hospitals	General practice Paediatric practice	General practice Paediatric practice	Intensive care unit		
Epidemic threshold	No	No	No		
Sampling strategy	-	-	-		

See [Notes](#).

Map

Locations of sentinel facilities (not reported)



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Slovenia

Total population: 2,066,068

Income group: high

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	Sentinel	-	-	Non-sentinel
Population covered (%)	4.0%	4.0%			100 %
Number of health facilities/ hospitals	40 facilities	40 facilities			All included
Case definition used	ECDC	ECDC			Not applicable – respiratory samples tested according to physician judgement in patients with ARI
Year introduced	2008 (before that year case national definition in place)	2008 (before that year case national definition in place)			2010
Type of health facilities/ hospitals	General/Family practices Paediatric practices School doctors	General/Family practices Paediatric practices School doctors			See above – most samples derive from hospitalized patients with ARI but not exclusively
Epidemic threshold	No	No			No
Sampling strategy	Samples taken from ILI patients – more intensive sampling advised in the beginning of the season, number of samples not limited	In principle, samples are collected from patients with ILI, not ARI			2 hospitals (200.000 inhabitants) send specimens with more comprehensive dataset directly to National Influenza Center (NIC), laboratories testing samples from other hospitals report weekly cumulative data to NIC.

See [Notes](#).

Map

Locations of sentinel facilities



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Spain

Total population: 46,259,716

Income group: high

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	-	-	Sentinel	Information on influenza positive specimens coming from virological diagnostic assays in regional influenza laboratories
Population covered (%)	2.2%			46,4%	-
Number of health facilities/ hospitals	789			91 hospitals	-
Case definition used	ECDC			Laboratory-confirmed influenza in all wards	Any
Year introduced	1996			2009	1996
Type of health facilities/ hospitals	General practice Paediatric practice			All wards Mainly public general hospitals	Laboratories belonging to the Spanish Influenza Surveillance System, mainly in public hospitals
Epidemic threshold	Yes			No	No
Sampling strategy	Samples are collected from the first 2 patients who attend the sentinel facility during the week.			All patients who meet clinical criteria of severe influenza like illness who required hospitalization (pneumonia/septic shock/ARDS/multiple organ dysfunction syndrome or admitted to intensive care) are sampled.	Any

See [Notes](#).

Map

Locations of sentinel facilities (not reported)



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Sweden

Total population: 9,696,110

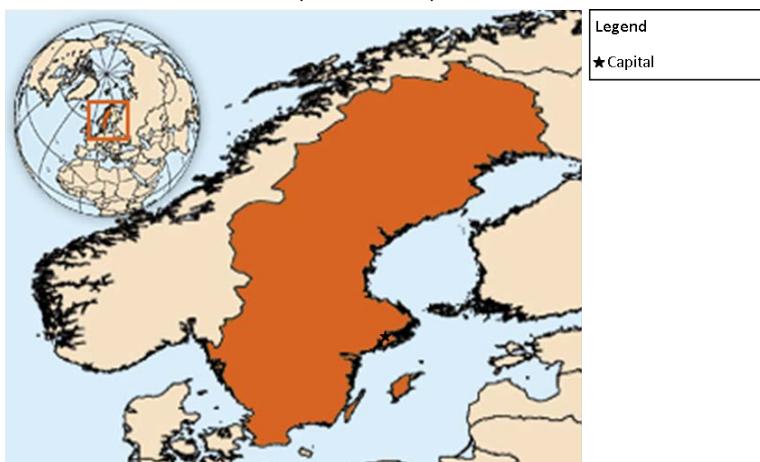
Income group: high

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel sampling only	-	-	Universal	Virological surveillance from all laboratories in the country
Population covered (%)	8%			100% (Note: 50% under-reporting expected)	100%
Number of health facilities/ hospitals	99 sites			78 intensive care units	28 laboratories
Case definition used	ECDC			Lab-confirmed influenza	ILI based on clinical presentation (close to ECDC definition)
Year introduced	2006			2013	1993, changed 2015
Type of health facilities/ hospitals	Mainly general practice but also some infectious disease and paediatric clinics are included			Intensive care unit	Primarily emergency/urgent care and hospitals, and infectious disease and paediatric clinics, and some primary care facilities
Epidemic threshold	No			No	Yes
Sampling strategy	Up to 5 specimens collected per week per site			Clinician decision	Clinician decision

See [Notes](#).

Map

Locations of sentinel facilities (not available)



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Switzerland

Total population: 8,211,383

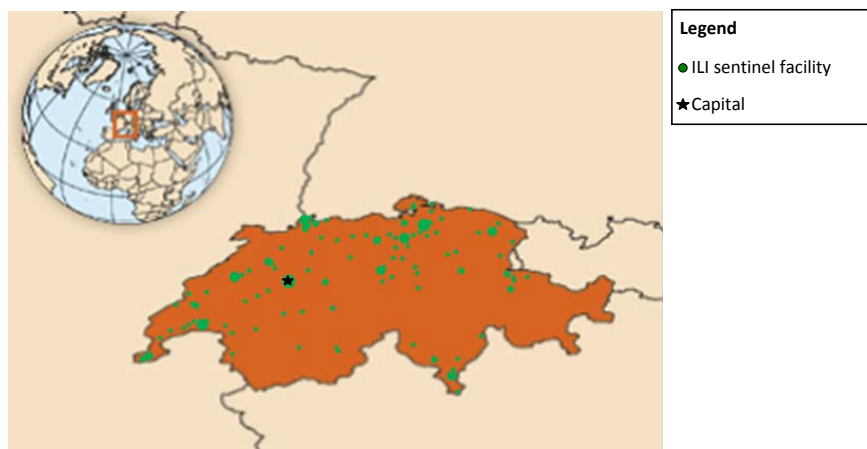
Income group: high

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	-	-	-	Laboratory surveillance
Population covered (%)	1.9%				100% (universal)
Number of health facilities/ hospitals	150-200				<250
Case definition used	WHO <2011				Laboratory-confirmation of influenza
Year introduced	1987				1988
Type of health facilities/ hospitals	General practice Paediatrician				Laboratories
Epidemic threshold	Yes				No
Sampling strategy	About 45% of all Sentinel facilities collect specimens. These sample - all ILI patients if the incidence is below the epidemic threshold - every 4th-10th ILI patient if the incidence is above the epidemic threshold				Mandatory notification of influenza detection

See [Notes](#).

Map

Locations of sentinel facilities



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Tajikistan

Total population: 8,295,840

Income group: low

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Universal	Universal	-	-	-
Population covered (%)	-	-			
Number of health facilities/ hospitals	-	-			
Case definition used	WHO <2011				
Year introduced	-	-			
Type of health facilities/ hospitals	-	-			
Epidemic threshold	No	No			
Sampling strategy	-	-			

See [Notes](#).

Map

Locations of sentinel facilities (not reported as system is universal)



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The former Yugoslav Republic of Macedonia

Total population: 2,075,625

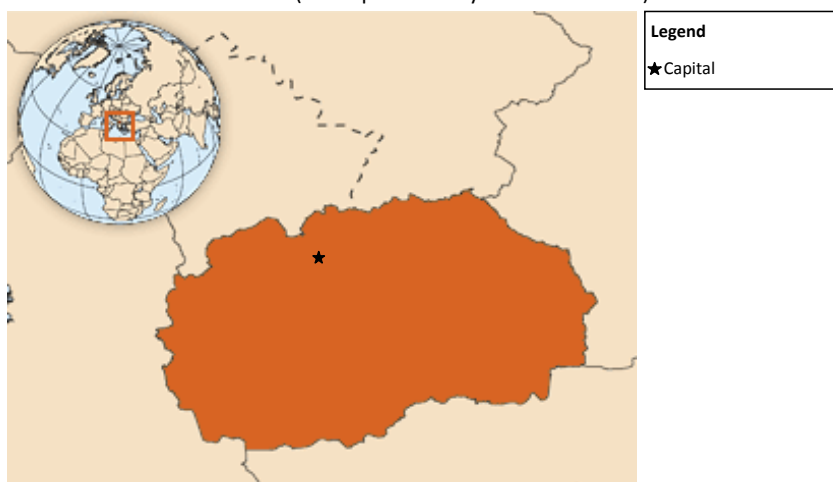
Income group: upper-middle

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Universal	-	-	-	-
Population covered (%)	100%				
Number of health facilities/ hospitals	All				
Case definition used	ECDC				
Year introduced	1966				
Type of health facilities/ hospitals	General practice Paediatric practice Polyclinic Infectious disease clinic All other health facilities from primary, secondary and tertiary level of health care				
Epidemic threshold	Yes				
Sampling strategy	First detected ILI cases who meets the case definition for ILI in each sentinel site				

See [Notes](#).

Map

Locations of sentinel facilities (not reported as system is universal)



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Turkey

Total population: 77,523,792

Income group: upper-middle

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	-	-	-	Samples sent from the centers other than sentinel centers
Population covered (%)	1%				-
Number of health facilities/ hospitals	17 province/ 180 family health care doctors				-
Case definition used	WHO <2011				WHO 2014
Year introduced	2004				2004
Type of health facilities/ hospitals	General practice				Hospitals
Epidemic threshold	No				No
Sampling strategy	Every Thursday one sample is collected from the first patient showing case definition symptoms				There is no determined strategy

See [Notes](#).

Map

Locations of sentinel facilities



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Turkmenistan

Total population: 5,307,188

Income group: upper-middle

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	-	-	-	-	-
Population covered (%)			-		
Number of health facilities/ hospitals			1		
Case definition used			-		
Year introduced			-		
Type of health facilities/ hospitals			-		
Epidemic threshold			-		
Sampling strategy			-		

See [Notes](#).

Map

Locations of sentinel facilities (not reported)



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Ukraine

Total population: 45,002,496

Income group: lower-middle

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	Universal	Sentinel	-	-
Population covered (%)	20,7467	100%	2 927 852		-
Number of health facilities/ hospitals	8 facilities	-	10 hospital		-
Case definition used	WHO 2011	WHO	WHO 2011		WHO
Year introduced	2007	1976	2007		1976
Type of health facilities/ hospitals	General practice Paediatric practice Polyclinic	General practice Paediatric practice Polyclinic Intensive care unit Infectious disease and Respiratory disease ward Maternity units	Intensive care unit Paediatric Infectious disease and Respiratory disease ward		General practice Paediatric practice Polyclinic Intensive care unit Infectious disease and Respiratory disease ward Maternity units
Epidemic threshold	No	Yes	No		Yes
Sampling strategy	4 by site during the 40-20 weeks; 2 by site during week 21-39	10 samples per week from each facility	6 by site during the week 40-20; 3 by site during week 21-39; All severe cases should be sampled		10 samples per week from each facilities

See [Notes](#).

Map

Locations of sentinel facilities



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United Kingdom of Great Britain and Northern Ireland

Total population: 64,331,348

Income group: high

England

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	-	-	Universal. All patients admitted to HDU/ICU with a laboratory-confirmed influenza infection should be reported.	Influenza data are collected from pathology systems transmitted from PHE, NHS and private microbiology laboratories across England
Population covered (%)	1.7%			100%	100%
Number of health facilities/ hospitals	~100 General Practices			~150 hospitals	>200
Case definition used	ILI is clinically defined as an individual presenting in primary care with an acute respiratory illness with physician-diagnosed fever or complaint of feverishness			Fever (>=38° C) or history of fever in previous 7 days AND two or more of: cough, sore throat, headache, rhinorrhoea, myalgia; D&V, increased resp rate, poor feeding	-
Year introduced	1964			2010	-
Type of health facilities/ hospitals	General practice			Intensive care units	PHE, NHS and private microbiology laboratories
Epidemic threshold	Yes – MEM threshold			No	No
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](#).

Northern Ireland

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	Sentinel		Universal ICU only	-
Population covered (%)	11%	11%		100%	
Number of health facilities/ hospitals	37 facilities	37 facilities		5 Trusts	
Case definition used	A disabling acute respiratory illness accompanied by severe fever and myalgia – Read Code H27	ECDC		Laboratory-confirmed influenza in ICU patients	
Year introduced	2001	2009		2011	
Type of health facilities/ hospitals	General practice	General practice		Intensive care unit	
Epidemic threshold	Yes	No		No	
Sampling strategy	Specimens collected weekly	-		-	

See [Notes](#).

Scotland

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	Sentinel	-	-	-
Population covered (%)	-	-			
Number of health facilities/ hospitals	-	-			
Case definition used	-	-			
Year introduced	-	-			
Type of health facilities/ hospitals	General practice	General practice			
Epidemic threshold	Yes	Yes			
Sampling strategy	-	-			

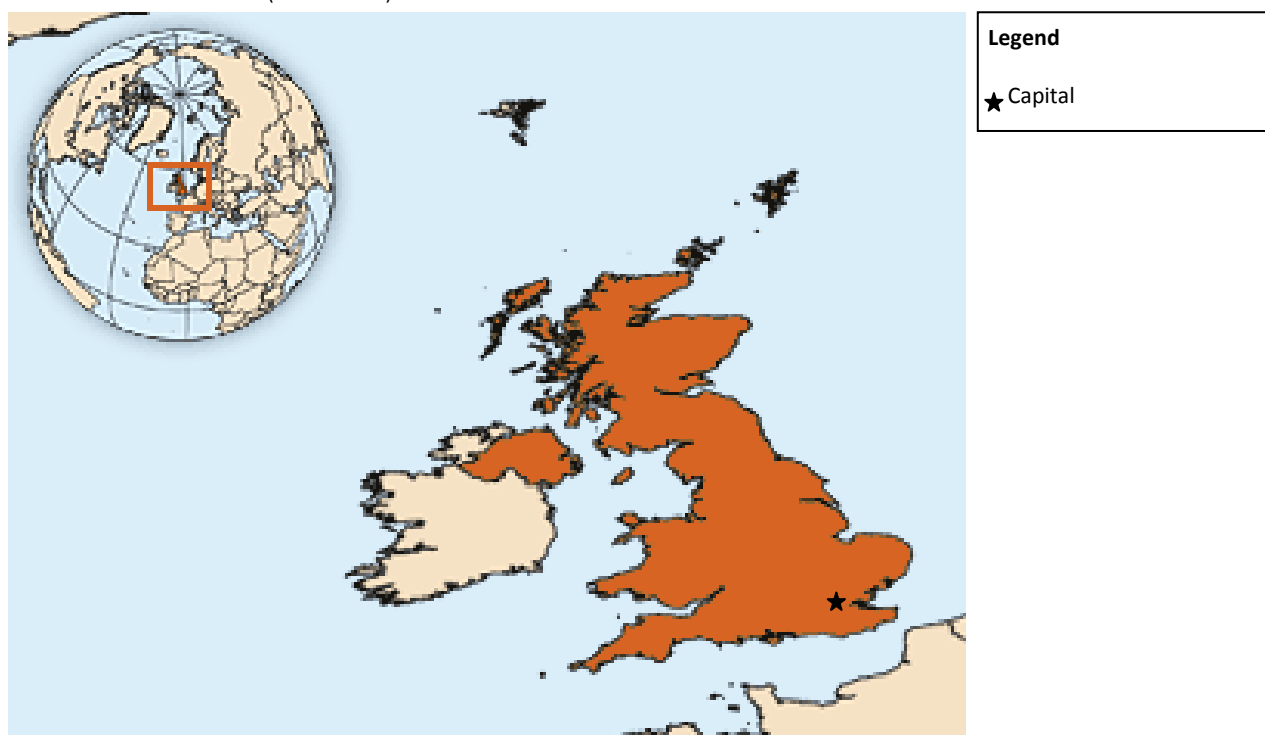
Wales

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	-	-	Universal	-
Population covered (%)	11.7%			100%	
Number of health facilities/ hospitals	44 facilities			19 hospitals	
Case definition used	-			-	
Year introduced	-			-	
Type of health facilities/ hospitals	General practice			All wards	
Epidemic threshold	Yes			No	
Sampling strategy	-			-	

See [Notes](#).

Map

Locations of sentinel facilities (not available)



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Uzbekistan

Total population: 31,025,500

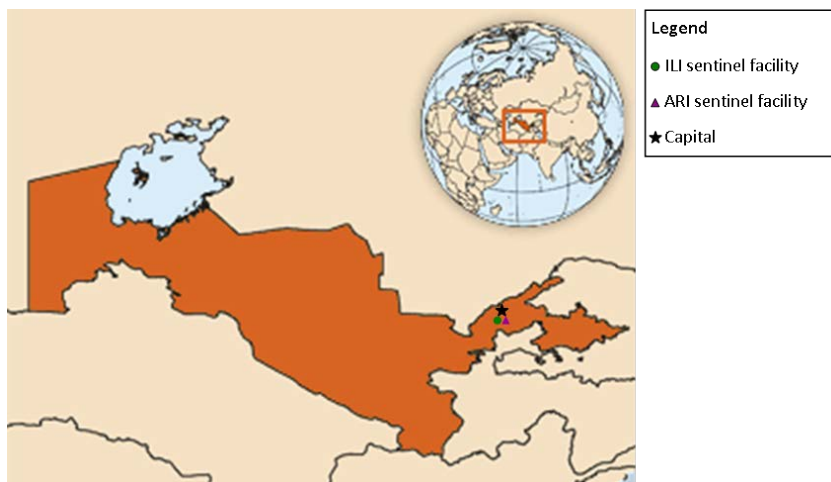
Income group: lower-middle

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	Sentinel	-	-	-
Population covered (%)	0.16%	0.16%			
Number of health facilities/ hospitals	1 facility	1 facility			
Case definition used	WHO	WHO			
Year introduced	2012	2012			
Type of health facilities/ hospitals ⁷	General practice Polyclinic	General practice Polyclinic			
Epidemic threshold	No	Yes			
Sampling strategy	-	-			

See [Notes](#)

Map

Locations of sentinel facilities



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Kosovo (in accordance with Security Council resolution 1244 (1999))¹

Total population: 1,827,231

Income group: lower-middle

System characteristic	Primary care		Hospital		Non-sentinel
	Influenza-Like illness (ILI)	Acute respiratory infection (ARI)	Severe acute respiratory infection (SARI)	Laboratory-confirmed influenza	
Type	Sentinel	-	Sentinel	-	-
Population covered (%)	48.4%		48.4%		
Number of health facilities/ hospitals	5		5		
Case definition used	WHO, ECDC		WHO, ECDC		
Year introduced	2012				
Type of health facilities/ hospitals	-Paediatric practice -General practice -Infective diseases -Lung diseases (all health care levels)		-Paediatric practice -ICU -Infective diseases -Lung diseases (secondary and tertiary health care levels)		
Epidemic threshold	No				
Sampling strategy	All sentinel centers 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](#).

Locations of sentinel facilities:

Prishtina region: 5 sentinel centres in Prishtina. Prizren region: 1 sentinel centre with adequate clinics and hospital units.

Map

Map not available.

¹ 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

– : Not available/ not known.

The profiles include only systems which provide data to the joint European Centre for Disease Prevention and Control (ECDC)–WHO Regional Office for Europe influenza bulletin, *Flu News Europe* (<https://flunewseurope.org/>).

Mid-year population presented is based on 2014 data, according to the WHO Regional Office for Europe’s European Health for All database (<http://data.euro.who.int/hfad>). Income is based on the World Bank list of economies (July 2014) (<http://data.worldbank.org/about/country-and-lending-groups>).

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.
3. A **non-sentinel** surveillance system includes other types of surveillance system (e.g. laboratory surveillance), which do not meet the definition of the other two types of system. Non-sentinel surveillance generally refers to viruses reported from/detected in patients from non-sentinel surveillance systems. In the WHO European Region, this includes viruses from clinical diagnostic laboratories, outbreaks, or universal ARI surveillance systems that do not have randomized/ standardized sampling strategies.

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 2014	An acute respiratory infection with: measured fever of ≥ 38 C° and cough; with onset within the last 10 days.
ARI	ECDC	Sudden onset of symptoms, and 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	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 <2011	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.
	WHO 2014	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 WHO case definition for pneumonia and severe pneumonia is applied.*</i>

*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.”