

Supplementary file 2: Country specific RSV surveillance in EU/EEA Member States

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Austria

	Sentinel		Non-sentinel
Type of health facilities	GPs and Paediatricians	Hospitals (PICU and paediatric departments)	Labs (notifications)
Set up	Part of influenza surveillance	Part of influenza surveillance	Part of influenza surveillance
Period	Week 40-20	Week 40-20	Week 40-20
Frequency	Weekly	Weekly	Weekly
Aggregation level	Case-based	Case-based	Aggregated
Population covered	0-1%	0-1%	x
Year introduced	2000	2000	2012
Eligible for sampling	ILI/ARI	SARI	No
Sampling algorithm for RSV	No	No	No
Information available	Unique patient identifier;Age or date of birth;Sex;Geographical information;Date of clinical onset;Date of sampling;Date of diagnosis;Clinical symptoms;Immunosuppressive medication or condition;Chronic lung disease;Other pathogens detected	Unique patient identifier;Age or date of birth;Sex;Geographical information;Date of clinical onset;Date of sampling;Date of diagnosis;Clinical symptoms;Immunosuppressive medication or condition;Chronic lung disease;Hospitalization	Reporting of aggregated data
Denominator known			No

Belgium

	Sentinel			Non-sentinel
Type of health facilities	GPs	Hospital	Labs	Hospitals sent samples to national reference lab for typing
Set up	Part of influenza surveillance	Part of influenza surveillance	Part of other surveillance	Part of other surveillance
Period	Week 40 to 20	Week 40 to 20	All year round	All year round
Frequency	Weekly	Weekly	Weekly	
Aggregation level	Case-based	Case-based	Case-based	Case-based
Population covered			~60 of all microbiological labs	
Year introduced	Season 2015-2016	Season 2015-2016	1996	2013
Eligible for sampling	ILI	SARI	Yes	Yes
Sampling algorithm for RSV				
Information available	Unique patient identifier; Age or date of birth; Sex; Geographical information; Date of clinical onset; Date of sampling; Date of diagnosis; Date of notification to surveillance organisation; Clinical symptoms; Immunosuppressive medication or condition; Chronic lung disease; Other pathogens detected	Unique patient identifier; Age or date of birth; Sex; Geographical information; Date of clinical onset; Date of sampling; Date of diagnosis; Date of notification to surveillance organisation; Clinical symptoms; Immunosuppressive medication or condition; Chronic lung disease; Other pathogens detected	Age or date of birth; Sex; Geographical information; Date of diagnosis	Age or date of birth; Sex; Geographical information; Date of diagnosis
Denominator known				No, only number of tests done by NRL, not all labs

Bulgaria

	Sentinel	Non-sentinel
Type of health facilities	GPs	Hospitals and GPs
Set up	Part of influenza surveillance	Part of influenza surveillance
Period	Week 40 to 20	All year round
Frequency	Weekly	Weekly
Aggregation level	aggregated	aggregated
Population covered	5,3%	
Year introduced	2001	1958
Eligible for sampling	ARI	ILI, SARI
Sampling algorithm for RSV	Yes	No
Information available	Yes	yes
Denominator known		no

Croatia

	Sentinel	Non-sentinel
Type of health facilities	None	Labs (All respiratory specimens sent to National Virus Reference Laboratory)
Set up		Through RSV-related studies
Period		All year
Frequency		weekly
Aggregation level		Case-based
Population covered		20%
Year introduced		1980
Eligible for sampling		No
Sampling algorithm for RSV		No
Information available		Age or date of birth;Sex;Geographical information;Hospitalization
Denominator known		No

Cyprus

	Sentinel	Non-sentinel
Type of health facilities	None	Hospitals (PICU/paediatric departments) unofficial system that captures most severe cases
Set up		Part of influenza surveillance
Period		Week 40-20
Frequency		Weekly
Aggregation level		Case-based
Population covered		Population < 15 yrs
Year introduced		2015
Eligible for sampling		No. Left to clinical definition of paediatrician
Sampling algorithm for RSV		No
Information available		Unique patient identifier; Age or date of birth; Sex; Geographical information; Date of sampling; Clinical symptoms; Hospitalization
Denominator known		Yes

Czech Republic

	Sentinel	Non-sentinel
Type of health facilities	GP	Lab
Set up	Part of influenza surveillance	Part of influenza surveillance
Period	Week 40-20	Week 40-20 or all year around
Frequency	Weekly	Weekly
Aggregation level	Aggregated	Aggregated
Population covered		
Year introduced	From season 2013/2014 - introduction of PCR for sentinel samples, until then virus isolation and serology were used	
Eligible for sampling	ILI/ARI	ILI and ARI
Sampling algorithm for RSV	The same sampling strategy as for flu	The same sampling strategy as for flu
Information available	Unique patient identifier; Age or date of birth; Sex; Geographical information; Date of clinical onset; Date of sampling, Symptoms, Diagnosis	
Denominator known		-

Denmark

	Sentinel	Non-sentinel
Type of health facilities	GPs	Labs
Set up	Part of influenza surveillance	Notifications through national register
Period	Week 40-20	All year round
Frequency	Weekly	Weekly
Aggregation level	Aggregated	Aggregated
Population covered	1-5%	x
Year introduced	2009	2015
Eligible for sampling	ILI	No
Sampling algorithm for RSV	No	No
Information available	Unique patient identifier; Age or date of birth; Sex; Geographical information; Date of clinical onset; Date of sampling; Other: other data can be found in the national registries	Unique patient identifier; Age or date of birth; Sex; Geographical information; Date of clinical onset; Date of sampling; Date of diagnosis; Date of notification to surveillance organisation; Source of notification; Hospitalization; Premature birth; RSV related death; Other pathogens detected
Denominator known		Yes

Estonia

	Sentinel	Non-sentinel
Type of health facilities	GPs/Polyclinic/family doctor	Labs
Set up	Part of influenza surveillance	Other surveillance
Period	All year round	All year round
Frequency	Weekly	Weekly
Aggregation level	Aggregated by age group	Aggregated
Population covered	14%	x
Year introduced	2006	1965
Eligible for sampling	ILI	No
Sampling algorithm for RSV	No	x
Information available		
Denominator known		Yes

Finland

	Sentinel
Type of health facilities	GPs
Set up	Part of influenza surveillance
Period	All year round
Frequency	Weekly
Aggregation level	Aggregated
Population covered	
Year introduced	2005
Eligible for sampling	No
Sampling algorithm for RSV	No
Information available	Unique patient identifier; Age or date of birth; Sex; Geographical information; Date of clinical onset; Date of sampling; Immunosuppressive medication or condition; Chronic lung disease; Hospitalization; Other pathogens detected
Denominator known	

Non-sentinel	
Hospitals (ICUs)	Labs
Part of influenza surveillance	Part of other surveillance
All year round	All year round
Weekly	
Aggregated	
2013	1995
No	No
Unique patient identifier; Age or date of birth; Sex; Geographical information; Date of clinical onset; Date of sampling; Immunosuppressive medication or condition; Chronic lung disease; Hospitalization; Other pathogens detected	Unique patient identifier; Age or date of birth; Sex; Geographical information; Date of sampling; Date of notification to surveillance organisation; Source of notification
No	No

France

	Sentinel		Non-sentinel
Type of health facilities	Hospital labs (Renal)	GPs	Emergency medical visits (home (SOS Médecins) and in hospital (OSCOUR©))
Set up	Part of other surveillance	Part of other surveillance	Syndromic surveillance
Period	Week 40 to 20	Week 40 to 20	Week 40 to 20
Frequency	Weekly	Weekly	Weekly
Aggregation level	Aggregated	Aggregated	Aggregated
Population covered	All ages	All ages	Infants ≤ 2 years
Year introduced			2009
Eligible for sampling	ARI	ILI	Bronchiolitis in emergency visits and hospitalization for clinical bronchiolitis
Sampling algorithm for RSV		The same sampling strategy as for flu	x
Information available	Number of samples positive for RSV		Age;Sex;Geographical information : region;Hospitalization
Denominator known			No

Germany

	Sentinel	Non-sentinel
Type of health facilities	GPs	Other
Set up	Part of influenza surveillance	Through RSV-related studies
Period	All year	
Frequency	Weekly	
Aggregation level	Case-based	
Population covered	0-1%	
Year introduced	2010	
Eligible for sampling	ILI/ARI	
Sampling algorithm for RSV	No	
Information available	Age or date of birth; Sex; Geographical information; Date of clinical onset; Date of sampling; Date of diagnosis; Clinical symptoms; Immunosuppressive medication or condition; Chronic lung disease	
Denominator known		No

Greece

	Sentinel	Non-sentinel
Type of health facilities	None	Labs
Set up		Part of other surveillance
Period		All year round
Frequency		
Aggregation level		
Population covered		
Year introduced		
Eligible for sampling		
Sampling algorithm for RSV		
Information available		Unique patient identifier; Age or date of birth; Sex; Date of sampling; Date of diagnosis; Hospitalization time; RSV genotype
Denominator known		Yes: The total number of samples tested for RSV

Hungary

	Sentinel
Type of health facilities	GPs, Paediatric practice
Set up	Part of influenza surveillance
Period	week 40 to 20
Frequency	weekly
Aggregation level	Case-based
Population covered	>20%
Year introduced	2005
Eligible for sampling	Yes
Sampling algorithm for RSV	ILI
Information available	Yes
Denominator known	

Non-sentinel
Hospitals
Part of influenza surveillance between 40-20 weeks
All year round
Weekly
Case-based
2005
Yes
SARI
Yes
No

Iceland

	Sentinel	Non-sentinel	
Type of health facilities	None	GPs/hospitals	Labs
Set up		Part of other surveillance	Part of other surveillance
Period		All year round	All year round
Frequency		weekly	weekly
Aggregation level		case-based	case-based
Population covered			
Year introduced		2011	2011
Eligible for sampling		ICD-10	Testing based on clinical judgement
Sampling algorithm for RSV		No	No
Information available		Unique patient identifier;Age or date of birth;Sex;Geographical information;Date of sampling;Date of notification to surveillance organisation;Source of notification	Age or date of birth;Sex;Geographical information;Date of sampling;Date of notification to surveillance organisation;Source of notification
Denominator known		No	Yes

Ireland

	Sentinel	Non-sentinel	
Type of health facilities	GPs	Labs (All respiratory specimens sent to National Virus Reference Laboratory)	Notification system (all RSV detections, including outbreaks)
Set up	Part of influenza surveillance	Part of influenza surveillance	Specifically for RSV
Period	All year	All year	All year
Frequency	Weekly	Weekly	Weekly
Aggregation level	Case-based	Case-based	Case-based
Population covered	6%	x	x
Year introduced	2000	2000	2012
Eligible for sampling	ILI	No	Yes
Sampling algorithm for RSV	No	No	No
Information available	Unique patient identifier;Age or date of birth;Sex;Geographical information;Date of clinical onset;Date of sampling;Date of notification to surveillance organisation;Source of notification;Other pathogens detected;Other: influenza vaccination status, date of influenza vaccination, exposure to antivirals, is the patient in a risk group for flu. All sentinel specimens are tested for influenza, RSV, parainfluenza viruses 1-4, human metapneumovirus and adeno viruses	Unique patient identifier;Age or date of birth;Sex;Geographical information;Date of sampling;Date of notification to surveillance organisation;Source of notification;Other pathogens detected	Unique patient identifier;Age or date of birth;Sex;Geographical information;Date of clinical onset;Date of sampling;Date of diagnosis;Date of notification to surveillance organisation;Source of notification
Denominator known		Yes	Irish population

Italy

	Sentinel	Non-sentinel
Type of health facilities	None	None
Set up		
Period		
Frequency		
Aggregation level		
Population covered		
Year introduced		
Eligible for sampling		
Sampling algorithm for RSV		
Information available		
Denominator known		

Latvia

	Sentinel	Non-sentinel
Type of health facilities	GPs/family doctor	Hospitals
Set up	Part of influenza surveillance	Part of other surveillance
Period	Week 40-20	All year round
Frequency	Weekly	Weekly
Aggregation level	Case-based	Aggregated
Population covered	0-1%	x
Year introduced	2011	1993
Eligible for sampling	ILI	Testing based on clinical judgement
Sampling algorithm for RSV	No	No
Information available	Unique patient identifier; Age or date of birth; Sex; Date of clinical onset; Clinical symptoms; Diagnosis; Date of sampling; Source of notification; Other pathogens detected; Influenza vaccination status; Date of influenza vaccination; Exposure to antivirals	Unique patient identifier; Age or date of birth; Sex; Date of clinical onset; Date of sampling
Denominator known		No

Lithuania

	Sentinel	Non-sentinel
Type of health facilities	None	None
Set up		
Period		
Frequency		
Aggregation level		
Population covered		
Year introduced		
Eligible for sampling		
Sampling algorithm for RSV		
Information available		
Denominator known		

Luxembourg

	Sentinel	Non-sentinel
Type of health facilities	None	None
Set up		
Period		
Frequency		
Aggregation level		
Population covered		
Year introduced		
Eligible for sampling		
Sampling algorithm for RSV		
Information available		
Denominator known		

Malta

	Sentinel	Non-sentinel
Type of health facilities	None	Hospital labs
Set up		Part of influenza surveillance
Period		All year round
Frequency		Weekly
Aggregation level		Case-based
Population covered		
Year introduced		2013
Eligible for sampling		ILI
Sampling algorithm for RSV		
Information available		Unique patient identifier;Sex;Date of sampling;Date of diagnosis
Denominator known		

The Netherlands

	Sentinel
Type of health facilities	GPs
Set up	Part of influenza surveillance
Period	All year round
Frequency	Weekly
Aggregation level	Case-based
Population covered	0-1%
Year introduced	1992
Eligible for sampling	ILI and ARI
Sampling algorithm for RSV	No
Information available	Unique patient identifier; Age or date of birth; Sex; Geographical information; Date of clinical onset; Date of sampling; Date of diagnosis; Date of notification to surveillance organisation; Source of notification; Clinical symptoms; Immunosuppressive medication or condition; Chronic lung disease; Other pathogens detected
Denominator known	

Non-sentinel	
Labs	Hospitals
Notifications	Network of PICUs including lab report*
All year round	Week 40 to 20
Weekly	Weekly
Aggregated	Aggregated
~80%	x
1964	2016
No	No
x	x
Date of diagnosis; Date of notification to surveillance organisation; Source of notification (which lab)	Hospitalization; Other pathogens detected; Other: week of admission to PICU, four age categories for SARI patients
No	No

- Note: this surveillance has only be operational during season 2016-2017

Norway

	Sentinel	Non-sentinel
Type of health facilities	None	Labs
Set up		part of other surveillance
Period		All year round
Frequency		Monthly
Aggregation level		Aggregated
Population covered		
Year introduced		1969
Eligible for sampling		No
Sampling algorithm for RSV		No
Information available		
Denominator known		No

Poland

	Sentinel
Type of health facilities	GPs
Set up	Part of influenza sentinel surveillance
Period	All year round
Frequency	Weekly
Aggregation level	Case-based
Population covered	1-5%
Year introduced	2004
Eligible for sampling	ILI
Sampling algorithm for RSV	Do not know
Information available	Age or date of birth;Geographical information;Date of notification to surveillance organisation
Denominator known	

Non-sentinel	
Hospitals	Labs
Part of influenza surveillance	Part of influenza surveillance
All year round	All year round
Weekly	Weekly
Case-based	Case-based
x	x
2004	2004
Do not know	Do not know
x	x
Age or date of birth;Geographical information;Date of notification to surveillance organisation	Geographical information;Date of notification to surveillance organisation
Do not know	Do not know

Portugal

	Sentinel
Type of health facilities	GPs and emergency units
Set up	Part of influenza surveillance
Period	
Frequency	
Aggregation level	
Population covered	
Year introduced	
Eligible for sampling	Influenza negative cases
Sampling algorithm for RSV	
Information available	
Denominator known	

Non-sentinel
Hospital labs
Part of influenza surveillance
Week 40-20
Weekly
Case-based
x
2010
ILI/ARI
No
Age or date of birth; Sex; Geographical information; Date of sampling; Date of notification to surveillance organisation; Source of notification; Hospitalization; Other pathogens detected; Death
Yes: The actual denominator is the total number of samples tested for influenza. It will be possible to have a more accurate number of samples tested only for RSV, only for influenza and tested for both viruses.

Romania

	Sentinel*	Non-sentinel
Type of health facilities		Hospitals (ICU/paediatric department and infectious disease ward)
Set up		Part of influenza surveillance
Period		Week 40-20
Frequency		Weekly
Aggregation level		Case-based
Population covered		x
Year introduced		2010
Eligible for sampling		SARI, negative for influenza (sporadically)
Sampling algorithm for RSV		No
Information available		Unique patient identifier; Age or date of birth; Sex; Geographical information; Date of clinical onset; Date of sampling; Date of diagnosis; Source of notification; Hospitalization
Denominator known		No

*sentinel surveillance between 2010/2011 and 2013/2014

Spain

	Sentinel	Non-sentinel
Type of health facilities	None	Labs
Set up		RSV detections. It was set up as a complementary system of Influenza surveillance
Period		Week 40-20
Frequency		Weekly
Aggregation level		Aggregated
Population covered		Not known
Year introduced		2006
Eligible for sampling		No
Sampling algorithm for RSV		No
Information available		Weekly RSV detections
Denominator known		Total number of samples tested for viral diagnostic purposes

Slovakia

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	Sentinel		Non-sentinel
Type of health facilities	GPs/paediatric practice	Hospital (ICU)	None
Set up	Part of influenza surveillance	Part of influenza surveillance	
Period	All year round	All year round	
Frequency	Weekly	Weekly	
Aggregation level	Case-based	Case-based	
Population covered	not known	100%	
Year introduced	2002	2006	
Eligible for sampling	No	No	
Sampling algorithm for RSV	No	No	
Information available	Yes	Yes	
Denominator known			

Slovenia

	Sentinel
Type of health facilities	Paediatricians, School doctors and General Practitioners
Set up	Part of influenza surveillance
Period	All year round
Frequency	Weekly
Aggregation level	Case-based
Population covered	4%
Year introduced	1999
Eligible for sampling	ILI
Sampling algorithm for RSV	No
Information available	Patient specific data: age, gender, place of residence, onset, date of specimen taken, influenza vaccination status, clinical symptoms
Denominator known	

Non-sentinel
Labs
Specifically for RSV
All year round
Weekly
Aggregated
100%
2006
ARI
No
Geographical information;Source of notification; Aggregated data are reported on weekly basis with no exact date of sampling or clinical onset.
Yes

Sweden

	Sentinel	Non-sentinel	
Type of health facilities	None	Labs and paediatric clinics	Hospital (ICU excluding NICU)
Set up		Part of influenza surveillance	Other surveillance
Period		Week 40 to 20	All year round
Frequency		Weekly	Weekly
Aggregation level		Case-based	Aggregated
Population covered		Total population	Total population
Year introduced		1999	2008
Eligible for sampling		No	No
Sampling algorithm for RSV		x	Unknown
Information available		Age or date of birth;Sex;Geographical information;Date of diagnosis;Date of notification to surveillance organisation;Source of notification;Other: Info from of ICU of RSV cases	Aggregated reports by age group, gender, reporting ICU, geographic region, primary vs other diagnosis of RS pneumonia, type of treatment, and other data.
Denominator known		Yes	Yes

United Kingdom

	Sentinel
Type of health facilities	GPs
Set up	Part of influenza surveillance
Period	Week 40 to week 20
Frequency	Weekly
Aggregation level	Aggregated
Population covered	0-1%
Year introduced	2000
Eligible for sampling	No
Sampling algorithm for RSV	A random sample of including young children (<5 years) presenting with acute bronchitis/bronchiolitis (up to a maximum of 5 per week).
Information available	Unique patient identifier; Age or date of birth; Sex; Geographical information; Date of clinical onset; Date of sampling; Date of diagnosis; Date of notification to surveillance organisation; Source of notification; Clinical symptoms; Other pathogens detected
Denominator known	

Non-sentinel
Lab and Hospitals (all hospital testing)
Part of other surveillance
All year round
Weekly
Aggregated
2007
No
Age or date of birth; Sex; Geographical information; Date of sampling; Date of diagnosis; Date of notification to surveillance organisation; Source of notification; Clinical symptoms
No