Influenza-like illness

INFLUENZA-LIKE ILLNESS

The end of the influenza epidemic is approaching

Sentinel physicians monitor the number of ILI seen in consultations (defined by sudden fever > 39°C (>102°F) with myalgia and respiratory signs).

Clinical monitoring: in metropolitan France, last week, the incidence rate of influenza-like illness seen in general practice was estimated at 160 cases per 100,000 inhabitants (95% CI [140 ; 180]), below the epidemic threshold (165 cases per 100,000) [1]. It will take another week to confirm the end of the influenza epidemic. The activity is decreasing for 3 weeks (see the graphe hereafter).

At the regional level, the highest incidence rates were reported in: Provence-Alpes-Côte d'Azur (231 cases per 100,000 inhabitants, 95% CI [151 ; 311]), Pays de la Loire (197, 95% CI [89 ; 305]) and Nouvelle-Aquitaine (196, 95% CI [88 ; 304]). Five of the thirteen regions still have an incidence rate higher than the national epidemic threshold. *(the regional data are presented at the end of this newsletter)*

<u>Virological monitoring:</u> since week 2016w40, date of start of monitoring, 2,666 samples were collected by Sentinelles network practitioners (1,861 by general practitioners 805 by pediatricians), among them, 1,356 (50.9%) were positive for at least one influenza virus on 2,665 test. The virus of type A(H3N2) was predominant, accounting for 97.1% (1,316 / 1,356) of the positive samples. Last week 130 samples were tested, among them, 62 (47.7%) were positive for at least one influenza virus. The positivity rate decreased, mostly in pediatrics, this week. The A(H3N2) remains the predominant virus detected:
- 9 (0.3%) A(H1N1)pdm09 virus,
- 1316 (49.4%) A(H3N2) virus,
- 29 (1.1%) A unsubtyped virus,
- 2 (0.1%) B/Victoria lineage virus,
- 0 (0.0%) B/Yamagata lineage virus,
- 1 (0.0%) B unknown lineage virus.

A single influenza A and B viruses co-infections has been observed.
Among the samples tested for three other respiratory viruses, the Rhinovirus and the Respiratory syncytial virus were dominant with 242 (9.2%) and 252 (9.5%) positive samples, respectively.

Last week, among the three viruses monitored RSV, Rhinovirus and Metapneumovirus were in slight increased circulation.

The samples were analyzed by the CNR (National Reference Centers) of *influenzae* viruses (CC Paris, CA Lyon), and the laboratory of Virology at the University of Corsica.

<u>Forecast:</u> according to the forecast models used (based on historical data [2] and on medication deliveries (IMS-Health research partnership) [3]), the level of activity of ILI should continue to decrease in the upcoming weeks *(see the graph hereafter).*

More information about this surveillance
*Information about the statistical methods*

[1] Costagliola D, et al. A routine tool for detection and assessment of epidemics of influenza-like syndromes in France. Am J Public Health. 1991;81(1):97-9.
[2] Viboud C, et al. Prediction of the spread of influenza epidemics by the method of analogues. Am J Epidemiol. 2003 Nov 15;158(10):996-1006.
*[3] Vergu E, et al. Medication sales and syndromic surveillance, France. Emerg Infect Dis. 2006. 12(3):416-21.*
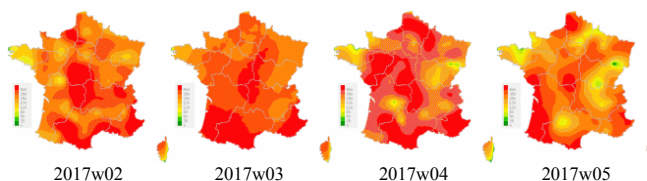
2017w02 2017w03 2017w04 2017w05

Consolidated data for the last 4 weeks
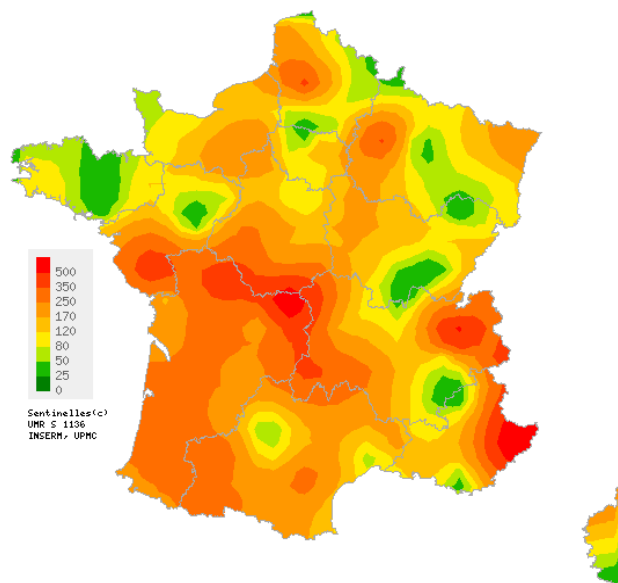
Map of spatial data interpolation based on Influenza-like illness incidence rates at the « departement » (NUTS 3) level (per 100 000 inhabitants), Sentinelles general practitioners, 2017w06
Maps available at http://www.sentiweb.fr
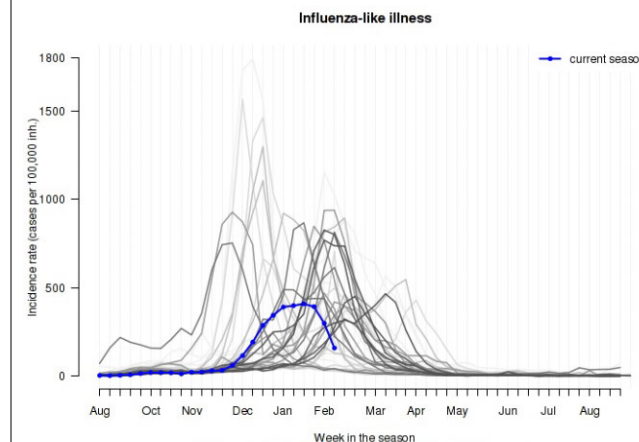
Incidence rate of influenza-like llness since 1984 (per 100 000 inhabitants), Sentinelles general practitioners.
In Blue: season 2016-2017 / In gray: seasons from 1984 to 2016
(the clearer the curve the older the data)
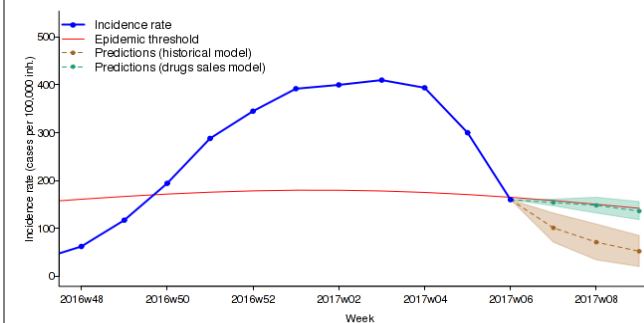
Predicted incidence rate for the next three weeks based on a forecast model on historical data [2] and on drug sales [3] Sentinelles general practitioners

ACUTE DIARRHEA
Moderate activity

Sentinel physicians monitor the number of acute diarrhea seen in consultations (defined by recent acute diarrhea (at least 3 daily watery or nearly so stools, dating less than 14 days, motivating consultation).

Clinical monitoring: in metropolitan France, last week, the incidence rate of acute diarrhea seen in general practice was estimated at 162 cases per 100,000 inhabitants (95% CI [143 ; 181]), **below** the epidemic threshold (189 cases per 100,000) [1]. *(see the graphe hereafter)*.

At the regional level, the highest incidence rates were noted in: Pays de la Loire (254 cases per 100,000 inhabitants, 95% CI [108 ; 400]), Provence-Alpes-Côte d'Azur (224, 95% CI [0 ; 453]) and Grand Est (195, 95% CI [133 ; 257]) *(the regional data are presented at the end of this newsletter)*.

Results for 2016-17 epidemic : the epidemic lasted for 10 weeks, from November 14th 2016 to January 22nd 2017 (week 2016w46 to 2017w03); within this period 1,367,000 people have consulted their GP for accute diarrhea (CI 95% [1,368,000 ; 1,406,000]). The apex of the epidemic was reached the week 2017w01 (247 cases per 100,000 inhabitants). The incidence has remained relatively constant and close to the epidemic threshold. The 2016-2017 epidemic has been the earliest observed by the Sentinelles network since 1990, but of moderate magnitude (14th out of the 27 observed epidemics).

Regarding the cases reported during the 10 weeks of epidemic, the median age was 25 years (2 months to 98 years). Males accounted for 48% of the cases. These cases showed no particular sign of severity: the percentage of hospitalization was estimated at 0.38% (95% CI [0.25 ; 0.55]).

Forecast: according to the forecast model based on historical data [2], the level of activity of acute diarrhea should continue to decline *(see the graphe hereafter)*.

More information about this surveillance

Information about the statistical methods

[1] Costagliola D, et al. A routine tool for detection and assessment of epidemics of influenza-like syndromes in France. Am J Public Health. 1991;81(1):97-9.
[2] Viboud C, et al. Prediction of the spread of influenza epidemics by the method of analogues. Am J Epidemiol. 2003 Nov 15;158(10):996-1006.
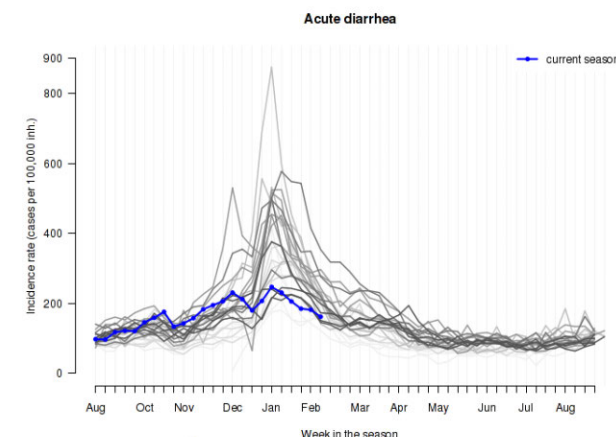

2017w02   2017w03   2017w04   2017w05
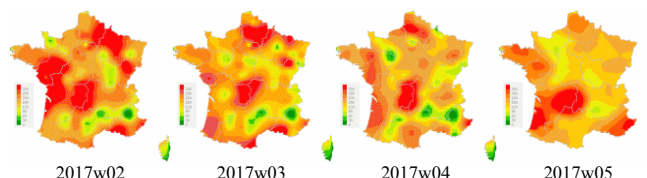
Consolidated data for the last 4 weeks
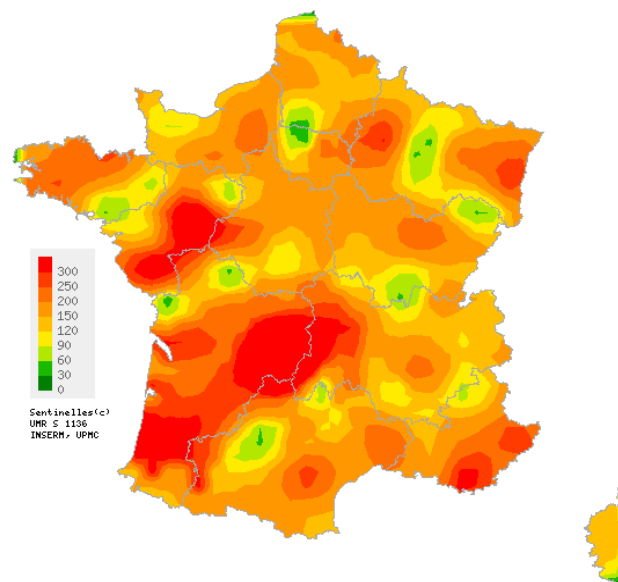

Map of spatial data interpolation
based on acute diarrhea incidence rates
at the « departement » (NUTS 3) level (per 100 000 inhabitants),
Sentinelles general practitioners, 2017w06
Maps available at http://www.sentiweb.fr

Incidence rate of acute diarrhea since 1990 (per 100 000 inhabitants),
Sentinelles general practitioners.
In Blue : season 2016-2017 / In gray: seasons from 1990 to 2016
(the clearer the curve the older the data)
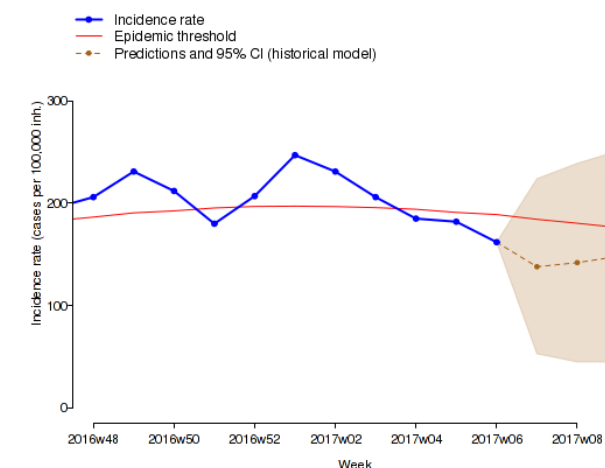
Predicted acute diarrhea incidence rate for the next three weeks
based on a forecast model on historical data [2]
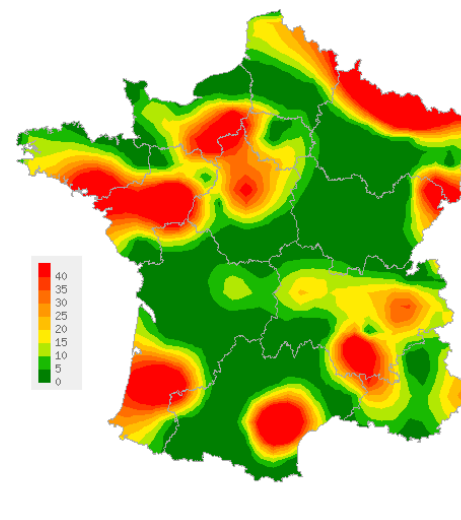Sentinelles general practitioners

Chickenpox

CHICKENPOX
Moderate activity

In metropolitan France, last week (2017w06), the incidence rate of Chickenpox seen in general practice was estimated at 17 cases per 100,000 inhabitants (95% CI [11 ; 23]).

Eight moderate regional clusters were reported in Pays de la Loire (37, 95% CI [0;87]), Grand Est (32, 95% CI [3; 61]), Bretagne (20, 95% CI [0 ; 57]), Centre-Val de Loire (20, 95% CI [2 ; 38]), Auvergne-Rhône-Alpes (19, 95% CI [5 ; 33]), Normandie (18, 95% CI [0 ; 43]), Hauts-de-France (17, 95% CI [0 ; 36]) and Provence-Alpes-Côte d'Azur (15, 95% CI [0 ; 35]). *

More information about this surveillance

* The regional data are presented at the end of this report.

Map of spatial data interpolation based on chickenpox incidence rates at the « departement » (NUTS 3) level (per 100 000 inhabitants), Sentinelles general practitioners, 2017w06
Maps available at http://www.sentiweb.fr
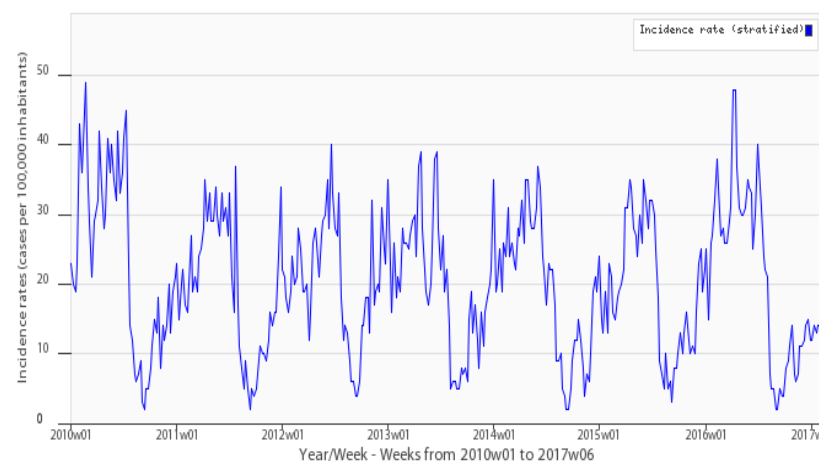
Chickenpox incidence rate
(per 100 000 inhabitants), Sentinelles general practitioners

National incidence rates (per 100 000 inhabitants) over the past 3 weeks	2017w06 (non consolidated)	2017w05	2017w04
	Incidence rate estimation [95% confidence interval]	Incidence rate estimation [95% confidence interval]	Incidence rate estimation [95% confidence interval]
INFLUENZA-LIKE ILLNESS	160 [140 ; 180]	300 [278 ; 322]	394 [370 ; 418]
ACUTE DIARRHEA	162 [143 ; 181]	182 [165 ; 199]	185 [168 ; 202]
CHICKENPOX	17 [11 ; 23]	14 [10 ; 18]	14 [9 ; 19]

Table 1 : Incidence rates* estimation with 95% confidence interval, for each indicator, in France, over the past 3 weeks .

Regional incidence rates for week 2017w06 (per 100 000 inhabitants)	INFLUENZA-LIKE ILLNESS	ACUTE DIARRHEA	CHICKENPOX
	Incidence rate estimation [95% confidence interval]	Incidence rate estimation [95% confidence interval]	Incidence rate estimation [95% confidence interval]
Auvergne-Rhône-Alpes	178 [131 ; 225]	158 [112 ; 204]	19 [5 ; 33]
Bourgogne-Franche-Comté	83 [27 ; 139]	132 [63 ; 201]	4 [0 ; 11]
Bretagne	72 [28 ; 116]	147 [83 ; 211]	20 [0 ; 57]
Centre-Val de Loire	158 [98 ; 218]	173 [114 ; 232]	20 [2 ; 38]
Corse	182 [91 ; 273]	107 [40 ; 174]	9 [0 ; 30]
Grand Est	151 [95 ; 207]	195 [133 ; 257]	32 [3 ; 61]
Hauts-de-France	114 [63 ; 165]	166 [103 ; 229]	17 [0 ; 36]
Ile-de-France	90 [35 ; 145]	114 [61 ; 167]	4 [0 ; 11]
Normandie	145 [73 ; 217]	181 [97 ; 265]	18 [0 ; 43]
Nouvelle-Aquitaine	196 [88 ; 304]	161 [55 ; 267]	6 [0 ; 17]
Occitanie	108 [51 ; 165]	134 [70 ; 198]	7 [0 ; 20]
Pays de la Loire	197 [89 ; 305]	254 [108 ; 400]	37 [0 ; 87]
Provence-Alpes-Côte d'Azur	231 [151 ; 311]	224 [0 ; 453]	15 [0 ; 35]

Table 2 : Incidence rates* estimation with 95% confidence interval, for each indicator, for each French region, for week 2017w06.

Regional branch	Head of network	Regional manager
Auvergne-Rhône-Alpes / Bourgogne-Franche-Comté	Marianne Sarazin	Caroline Liotard
Centre Val de Loire / Hauts-de-France	Thierry Prazuck	Thomas Goronflot Mathieu Rivière
Ile-de-France	Mathilde François	Cécile Pino
Méditerranée : Corse / Occitanie / Provence-Alpes-Côte d'Azur	Jean-Pierre Amoros Alessandra Falchi	Priscillia Bompard Lisandru Capai Shirley Masse

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* Incidence rates estimate are calculated on the activity of general practitioners.