Influenza-like illness

Epidemic Activity in general practice

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 (2018w02), the incidence rate of influenza-like illness seen in general practice was estimated at 339 cases per 100,000 inhabitants (95% CI [315 ; 363]), corresponding to 221,000 new cases. During these 5 weeks of influenza epidemic, 1,127,000 people would have consulted a general practitioner for this reason.

This incidence rate has been decreasing for two weeks now and seems to be the beginning of the epidemic decrease. However, in this first week post-holidays, the ILI incidence among the 0-14 years old children is increasing. It will be important to remain vigilant on the epidemic dynamics in the upcoming weeks.

At the regional level, the highest incidence rates were reported in: Provence-Alpes-Côte d'Azur (608 cases per 100,000 inhabitants, 95% CI [462 ; 754]), Grand Est (421, 95% CI [344 ; 498]) and Auvergne-Rhône-Alpes (399, 95% CI [333 ; 465]).   All the regions present a strong activity. *(the regional data are presented at the end of this newsletter)* .

Regarding the cases reported last week, the median age was 35 years (6 months to 92 years). Males accounted for 44% of the cases. These cases showed no particular sign of severity: the percentage of hospitalization was estimated at 0.4% (95% CI [0 ; 0.9]).

The Sentinelles data are now integrated into an epidemic detection tool for influenza developed by 'Santé publique France', combining information from primary care and hospital emergencies [1].

For the last week (2018w02), the conclusions of the Santé Publique France are:
"- Influenza epidemic in downphase in France
- Peak probably reached in most areas"

Virological monitoring: since week 2017s40, date of start of monitoring, 1098 samples were swabbed by Sentinelles network practitioners (746 by general practitionners and 352 by pediatricians), and 1,096 samples tested.

Last week 157 samples were realized and tested, among them, 81 (51.6%) were positive for at least one influenza virus. The positivity rate was decreasing last week.

The influenza viruses detected along the season were distributed as follows:
- 308 (28.1%) A(H1N1)pdm09 virus,
- 51 (4.7%) A(H3N2) virus,
-   27 (2.5%) A unsubtyped virus,
-    1 (0.1%) B/Victoria lineage virus,
- 109 (9.9%) B/Yamagata lineage virus,
- 30 (2.7%) B unknown lineage virus.
No influenza A and B viruses co-infections has been observed.

The samples were also tested for three other respiratory viruses: the Respiratory SyncytialVirus (RSV), the Rhinovirus (HRV) and the Metapneumovirus (hMPV). This week, detection in those three respiratory viruses is decreasing.

The samples were analyzed by the CNR (National Reference Centers) of *influenzae* viruses (coordinating center Institut Pasteur Paris, associated center 'Hospices civils de Lyon'), and the laboratory of Virology at the University of Corsica.

Forecast: according to the forecast models based on historical data [2], and on medication deliveries (IQVIA research partnership) [3], the ILI incidence could remain stable in the upcoming weeks *(the graph hereafter)*.

Santé publique France weekly influenza report (in french)
More information about Influenza-like illness Sentinelles surveillance
Information about Sentinelles network statistical methods (in french)

[1] Pelat C. et al. Regional Influenza study group. Improving regional influenza surveillance through a combination of automated outbreak detection methods: the 2015/16 season in France. Euro Surveill. 2017;22(32):pii=30593.
[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.
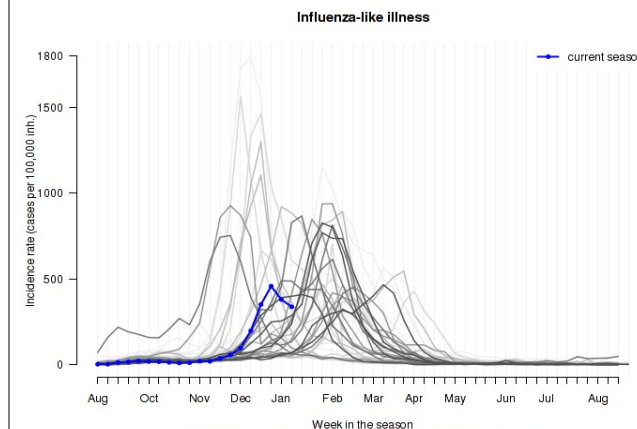
2017w50   2017w51   2017w52   2018w01
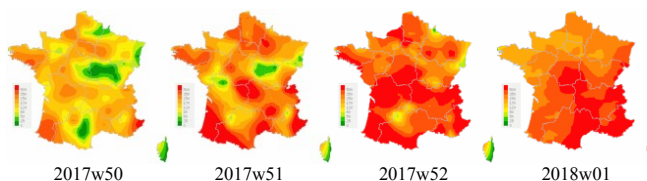
Consolidated data for the last 4 weeks
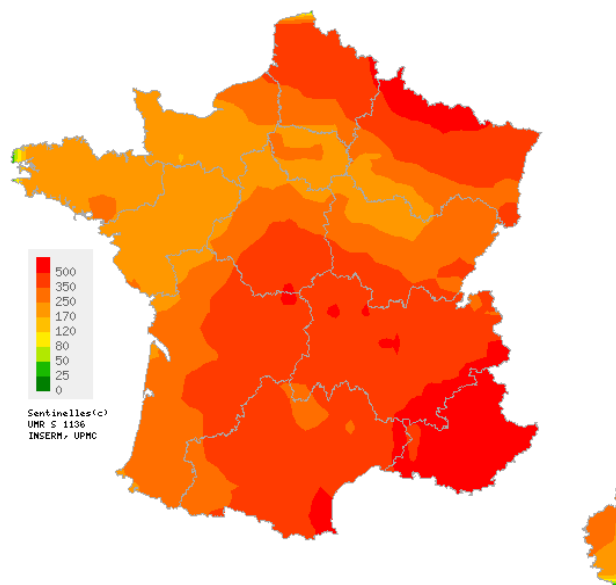
Map of spatial data interpolation based on Influenza-like illness incidence rates at the « departement » (NUTS 3) level (per 100 000 inhabitants), Sentinelles general practitioners, 2018w02
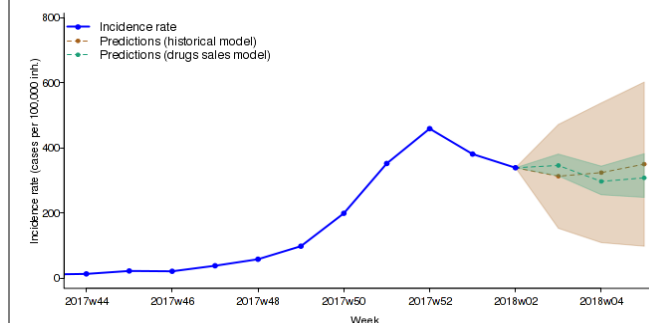Maps available at http://www.sentiweb.fr

Incidence rate of influenza-like llness since 1984 (per 100 000 inhabitants), Sentinelles general practitioners.
In Blue: season 2017-2018/ In gray: seasons from 1984 to 2017
(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

Epidemic Activity in general practice

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 (2018w02), the incidence rate of acute diarrhea seen in general practice was estimated at 211 cases per 100,000 inhabitants (95% CI [192 ; 230]), corresponding to 138,000 new cases, **above** the epidemic threshold (186 cases per 100,000) [1].

This incidence rate is increasing after three weeks of stable incidence rates of acute diarrhea. During these first 6 weeks of the outbreak of gastroenteritis, 694,000 people would have consulted a general practitioner for this reason.

At the regional level, the highest incidence rates were noted in: Provence-Alpes-Côte d'Azur (282 cases per 100,000 inhabitants, 95% CI [155 ; 409]), Grand Est (270, 95% CI [209 ; 331]) and Pays de la Loire (264, 95% CI [158 ; 370]) *(the regional data are presented at the end of this newsletter)* .

Regarding the cases reported last week, the median age was 28 years (3 months to 91 years). Males accounted for 48% of the cases. These cases showed no particular sign of severity: the percentage of hospitalization was estimated at 0.3% (95% CI [0 ; 0.8]).

Forecast: according to the forecast model based on historical data [2], the level of activity of acute diarrhea could increase in the upcoming weeks *(see the graph hereafter)*.

Santé publique France weekly gastroenteritis report (in french)
More information about Acute Diarrhea Sentinelles surveillance
*Information about Sentinelles network statistical methods (in french)*

[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.*

2017w50 2017w51 2017w52 2018w01

Consolidated data for the last 4 weeks
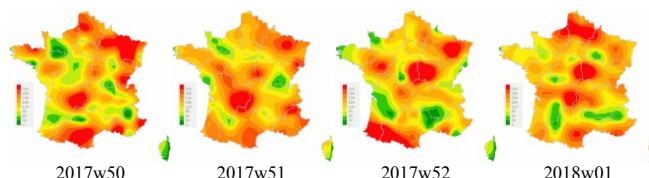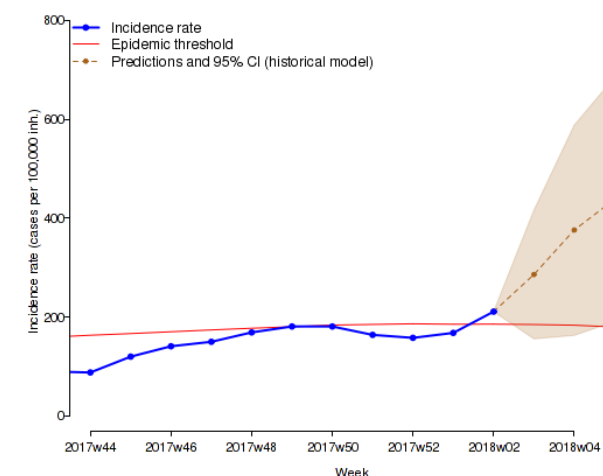

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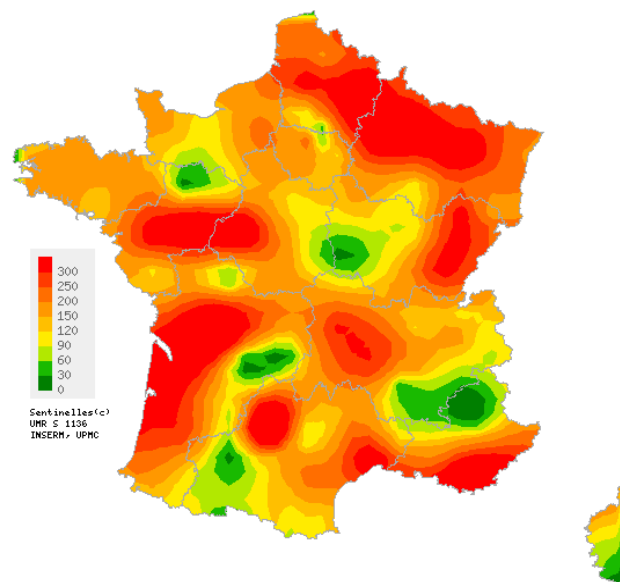
Map of spatial data interpolation
based on acute diarrhea incidence rates
at the « departement » (NUTS 3) level (per 100,000 inhabitants),
Sentinelles general practitioners, 2018w02
Maps available at http://www.sentiweb.fr
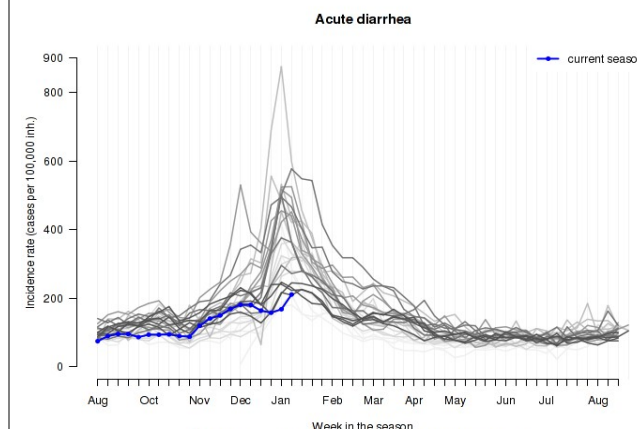
Incidence rate of acute diarrhea since 1990 (per 100,000 inhabitants),
Sentinelles general practitioners.
In Blue : season 2017-2018 / In gray: seasons from 1990 to 2017
(the clearer the curve the older the data)

Predicted acute diarrhea incidence rate for the next three weeks
based on a forecast model on historical data [2]
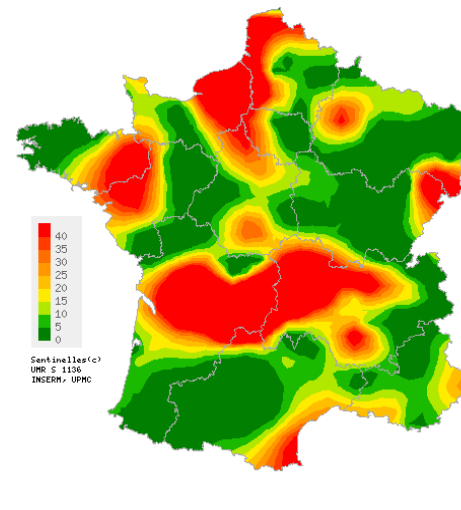Sentinelles general practitioners

Chickenpox

Moderate activity in general practice

In metropolitan France, last week (2018w02), the incidence rate of Chickenpox seen in general practice was estimated at 20 cases per 100,000 inhabitants (95% CI [14 ; 26]).

Five regional clusters were reported, **high** in Normandie (61 cases per 100,000 inhabitants, 95% CI [8 ; 114]) and **moderate** in Auvergne-Rhône-Alpes (32, 95% CI [8 ; 56]), Nouvelle-Aquitaine (31, 95% CI [0 ; 68]), Bretagne (30, 95% CI [1 ; 59]) and Hauts-de-France (28, 95% CI [7 ; 49]). *(the regional data are presented at the end of this report).*

More information about this surveillance

Map of spatial data interpolation based on chickenpox incidence rates at the « departement » (NUTS 3) level (per 100 000 inhabitants), Sentinelles general practitioners, 2018w02
Maps available at http://www.sentiweb.fr
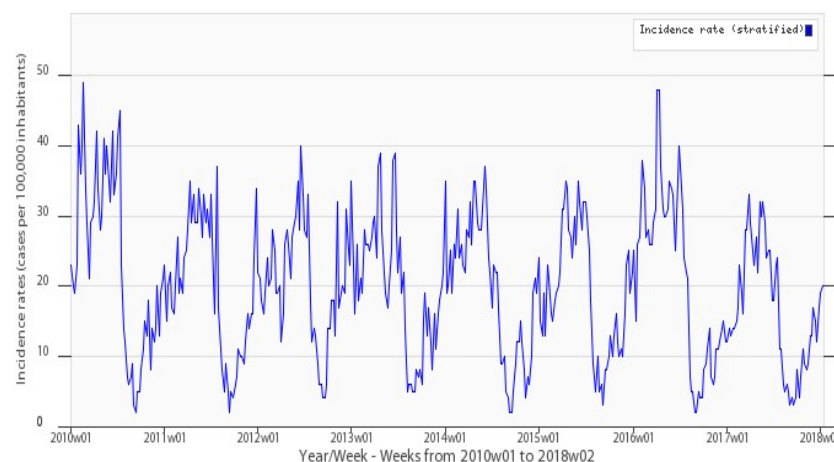
Chickenpox incidence rate
(per 100 000 inhabitants), Sentinelles general practitioners

National incidence rates (per 100 000 inhabitants) over the past 3 weeks	2018w02 (non consolidated)	2018w01	2017w52
	Incidence rate estimation [95% confidence interval]	Incidence rate estimation [95% confidence interval]	Incidence rate estimation [95% confidence interval]
INFLUENZA-LIKE ILLNESS	339 [315 ; 363]	381 [357 ; 405]	459 [429 ; 489]
ACUTE DIARRHEA	211 [192 ; 230]	168 [152 ; 184]	158 [141 ; 175]
CHICKENPOX	20 [14 ; 26]	19 [14 ; 24]	17 [12 ; 22]

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

Regional incidence rates for week 2018w02 (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	399 [333 ; 465]	154 [111 ; 197]	32 [8 ; 56]
Bourgogne-Franche-Comté	226 [150 ; 302]	168 [99 ; 237]	5 [0 ; 14]
Bretagne	267 [182 ; 352]	166 [101 ; 231]	30 [1 ; 59]
Centre-Val de Loire	297 [217 ; 377]	210 [140 ; 280]	19 [3 ; 35]
Corse	214 [120 ; 308]	145 [64 ; 226]	2 [0 ; 9]
Grand Est	421 [344 ; 498]	270 [209 ; 331]	8 [0 ; 18]
Hauts-de-France	390 [305 ; 475]	242 [165 ; 319]	28 [7 ; 49]
Ile-de-France	247 [187 ; 307]	173 [123 ; 223]	4 [0 ; 10]
Normandie	241 [150 ; 332]	164 [92 ; 236]	61 [8 ; 114]
Nouvelle-Aquitaine	295 [176 ; 414]	198 [114 ; 282]	31 [0 ; 68]
Occitanie	394 [293 ; 495]	189 [130 ; 248]	10 [0 ; 23]
Pays de la Loire	207 [129 ; 285]	264 [158 ; 370]	17 [0 ; 34]
Provence-Alpes-Côte d'Azur	608 [462 ; 754]	282 [155 ; 409]	18 [0 ; 44]

Table 2 : Incidence rates* estimation with 95% confidence interval, for each indicator, for each French region, for week 2018w02.

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