

## Influenza-like illness

### INFLUENZA-LIKE ILLNESS

**Epidemic Activity**  
**in 2 weeks 343,000 people**  
**would have consulted a GP**

Sentinel physicians monitor the number of ILI seen in consultations (defined by sudden fever > 39°C (>102°F) with myalgia and respiratory signs). Using the number of ILI cases, it is possible to estimate the number of cases due to influenza viruses.

**Clinical monitoring:** in metropolitan France, last week, the incidence rate of influenza-like illness seen in general practice was estimated at 297 cases per 100,000 inhabitants (95% CI [273 ; 321]), 193,000 new cases, **above** the epidemic threshold (168 cases per 100,000) [1]. This is the second consecutive week above the epidemic threshold confirming the start of the epidemic.

**At the regional level,** the highest incidence rates were reported in: Rhône-Alpes (690 cases per 100,000 inhabitants 95% CI [577 ; 803]), Provence-Alpes-Côte-d'Azur (469, 95% CI [317 ; 621]) and Languedoc-Roussillon (407, 95% CI [271 ; 543]). Seventeen regions have their incidence rate above the national epidemic threshold. (the regional data are presented at the end of this newsletter).

**Regarding the cases reported** last week, the median age was 17 years (3 months to 93 years). Males accounted for 49% of the cases. These cases showed no particular sign of severity: the percentage of hospitalization was estimated at 0.3% (95% CI 0.3% [0.0 ; 0.7]).

**Virological monitoring:** since week 2015w40, date of start of monitoring, 1537 samples were collected by Sentinelles network practitioners (874 by general practitioners and 663 by pediatricians). 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:

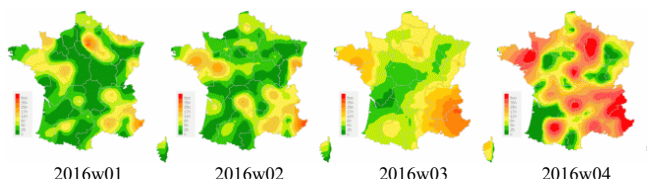
- 25 (10.5%) A(H1N1)pdm09 type virus lineage,
  - 1 (0.4%) A(H3N2) type virus lineage,
  - 15 (6.3%) A non-subtyped virus lineage,
  - 53 (22.2%) B Victoria type virus lineage,
  - 1 (0.4%) B Yamagata type virus lineage,
  - 41 (17.2%) B non-subtyped virus lineage.
- Three influenza viruses co-infections have been observed.

**Forecast:** according to the forecast models based on historical data [2], and on medication deliveries (IMS-Health research partnership) [3]. This second week exceeding the threshold confirms the arrival of the flu epidemic in metropolitan France, the activity of ILI should continue to rise next weeks (see the graph hereafter).

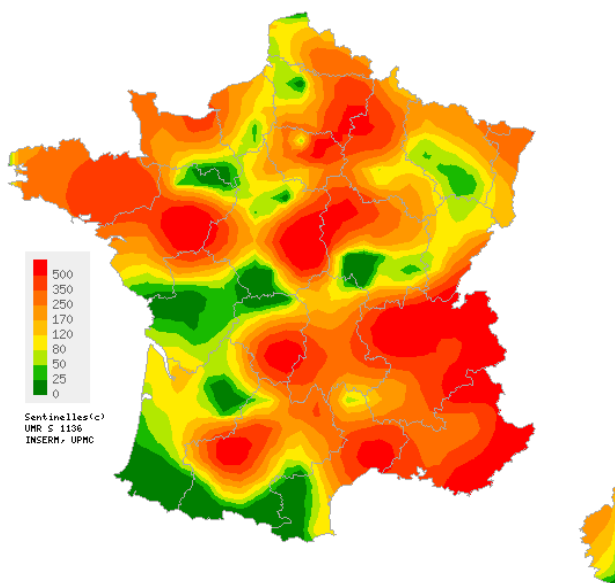
**Attributable ratio estimate to the Flu:** during the week 2016w05, we estimated that there were around **131,000 consultations** due to influenza viruses seen in general practice (90% prediction interval [84,000; 178,000]). In 2 weeks of epidemic, the number of consultations for influenza was estimated at 215,000 (90% PI [121,000 ; 309,000]).

[More information about this surveillance](#)  
[Information about the statistical methods](#)

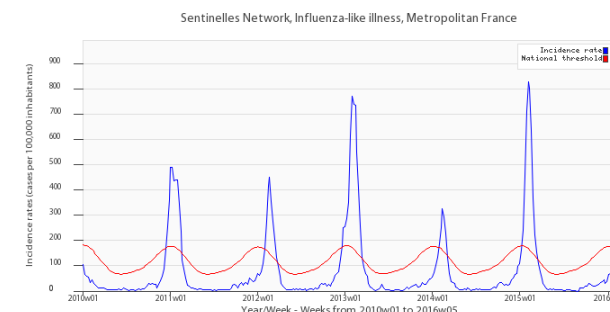
- [1] Costagliola D, et al. A routine tool for detection and assessment of epidemics of influenza-like syndromes in France. *Am J Public Health*. 1991;81(1):97-9.  
[2] Viboud C, et al. Prediction of the spread of influenza epidemics by the method of analogues. *Am J Epidemiol*. 2003 Nov 15;158(10):996-1006.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



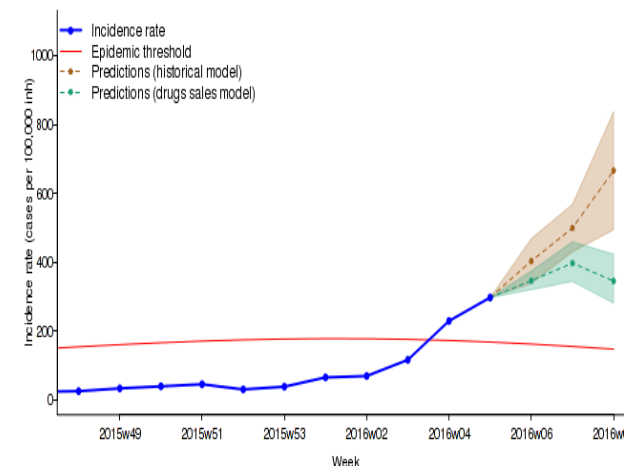
Consolidated data for the last 4 weeks



Map of spatial data interpolation based on Influenza-like illness incidence rates at the « département » (NUTS 3) level (per 100 000 inhabitants),  
Sentinelles general practitioners, 2016w05  
[Maps available at http://www.sentiweb.fr](http://www.sentiweb.fr)



Influenza-like illness incidence rate in blue,  
epidemic threshold in red calculated by a periodic regression model [1]  
(per 100 000 inhabitants), Sentinelles general practitioners



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

### ACUTE DIARRHEA Epidemic Activity in 5 weeks 706,000 people would have consulted a GP

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 213 cases per 100,000 inhabitants (95% CI [192 ; 234]), 138,000 new cases, **above** the epidemic threshold (189 cases per 100,000) [1]. This is the fifth consecutive week above the epidemic threshold.

**At the regional level,** the highest incidence rates were noted in: Poitou-Charentes (511 cases per 100,000 inhabitants 95% CI [237 ; 785]), Champagne-Ardenne (313, 95% CI [91 ; 535]) and Provence-Alpes-Côte-d'Azur (288, 95% CI [148 ; 428]) (the regional data are presented at the end of this newsletter).

**Regarding the cases reported** last week, the median age was 25 years (5 months to 96 years). Males accounted for 49% of the cases. These cases showed no particular sign of severity: the percentage of hospitalization was estimated at 0.5% CI [0.0 ; 1.1].

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

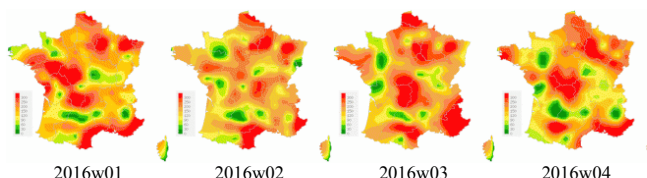
[More information about this surveillance](#)

[Information about the statistical methods](#)

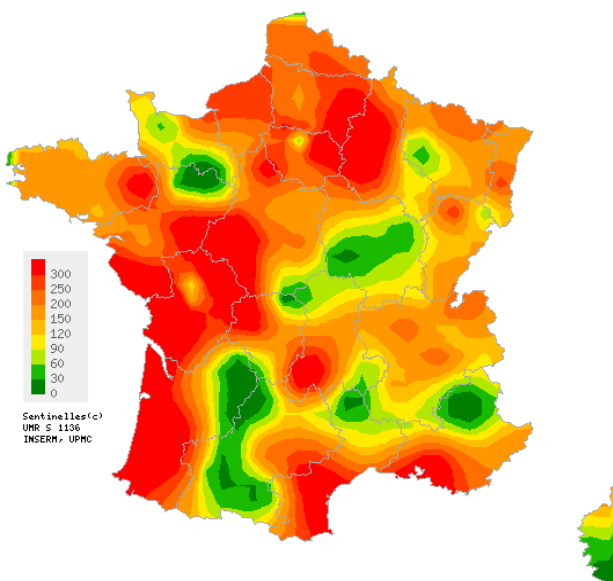
[1] Costagliola D, et al. A routine tool for detection and assessment of epidemics of influenza-like syndromes in France. *Am J Public Health*. 1991;81(1):97-9.

[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.

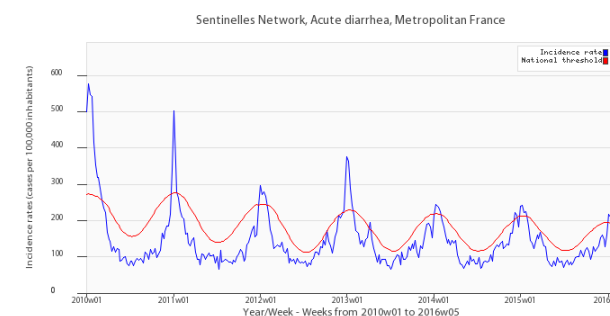
[3] Pelat C, et al. A method for selecting and monitoring medication sales for surveillance of gastroenteritis. *Pharmacoepidemiol Drug Saf*. 2010 Oct;19(10):1009-18.



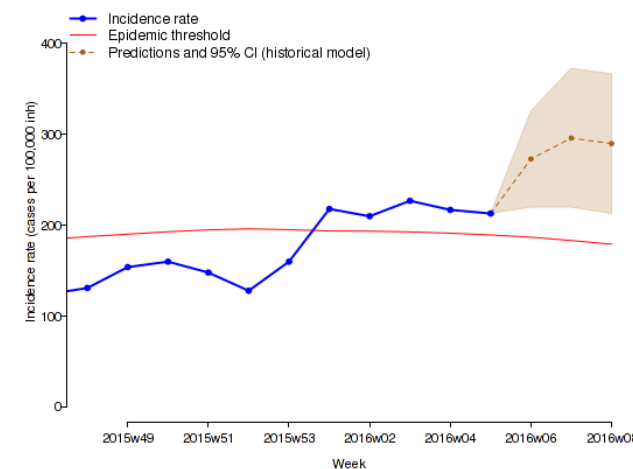
Consolidated data for the last 4 weeks



Map of spatial data interpolation  
based on acute diarrhea incidence rates  
at the « département » (NUTS 3) level (per 100 000 inhabitants),  
Sentinelles general practitioners, 2016w05  
[Maps available at http://www.sentiweb.fr](http://www.sentiweb.fr)



Acute diarrhea incidence rate in blue,  
epidemic threshold in red calculated by a periodic regression model [1]  
(per 100 000 inhabitants), Sentinelles general practitioners



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

## Chickenpox

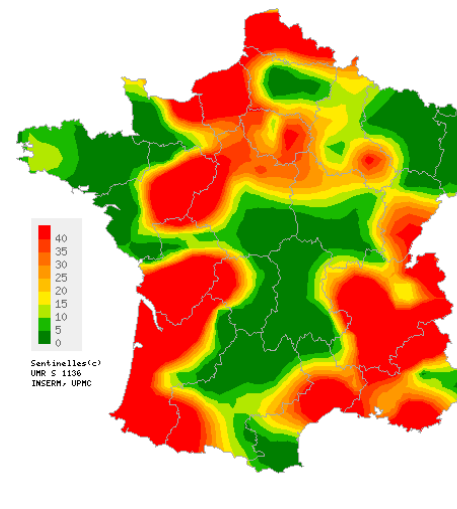
### CHICKENPOX Moderate activity

In metropolitan France, last week, the incidence rate of Chickenpox seen in general practice was estimated at 31 cases per 100,000 inhabitants (95% CI [23 ; 39]).

**Fourteen regional clusters** were reported, **high** in Nord-Pas-de-Calais (84 cases per 100,000 inhabitants 95% CI [28 ; 140]), Aquitaine (67, 95% CI [2 ; 132]), Haute-Normandie (55, 95% CI [0 ; 150]), Rhône-Alpes (50, 95% CI [23 ; 77]), Pays-de-la-Loire (44, 95% CI [0 ; 106]) and Languedoc-Roussillon (43, 95% CI [0 ; 90]) and **moderate** in Basse-Normandie (37, 95% CI [0 ; 79]), Poitou-Charentes (37, 95% CI [0 ; 87]), Provence-Alpes-Côte-d'Azur (35, 95% CI [0 ; 79]), Ile-de-France (26, 95% CI [2 ; 50]), Centre (26, 95% CI [0 ; 53]), Franche-Comté (25, 95% CI [0 ; 63]), Champagne-Ardenne (20, 95% CI [0 ; 48]) and Limousin (20, 95% CI [0 ; 57]). \*

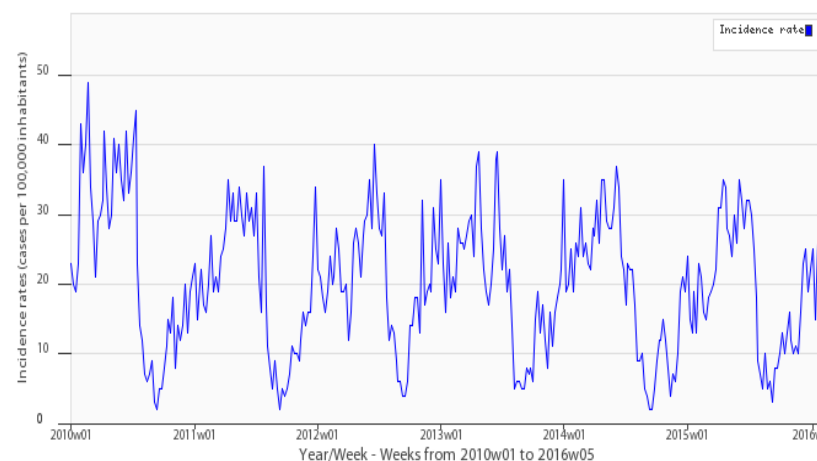
[More information about this surveillance](#)

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



Map of spatial data interpolation based on chickenpox incidence rates at the « département » (NUTS 3) level (per 100 000 inhabitants),  
Sentinelles general practitioners, 2016w05  
[Maps available at http://www.sentiweb.fr](http://www.sentiweb.fr)

Sentinelles Network, Chickenpox, Metropolitan France



Chickenpox incidence rate  
(per 100 000 inhabitants), Sentinelles general practitioners

National incidence rates (per 100 000 inhabitants) over the past 3 weeks	2016w05 (non consolidated)	2016w04	2016w03
	Incidence rate estimation [95% confidence interval]	Incidence rate estimation [95% confidence interval]	Incidence rate estimation [95% confidence interval]
INFLUENZA-LIKE ILLNESS	297 [273 ; 321]	229 [211 ; 247]	116 [103 ; 129]
ACUTE DIARRHEA	213 [192 ; 234]	217 [199 ; 235]	227 [208 ; 246]
CHICKENPOX	31 [23 ; 39]	27 [20 ; 34]	26 [20 ; 32]

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

Regional incidence rates for week 2016w05 (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]
Alsace	260 [24 ; 496]	209 [21 ; 397]	0 [0 ; 0]
Aquitaine	101 [23 ; 179]	212 [110 ; 314]	67 [2 ; 132]
Auvergne	208 [98 ; 318]	159 [56 ; 262]	0 [0 ; 0]
Basse-Normandie	307 [190 ; 424]	141 [60 ; 222]	37 [0 ; 79]
Bourgogne	241 [143 ; 339]	80 [22 ; 138]	7 [0 ; 20]
Bretagne	400 [282 ; 518]	237 [144 ; 330]	4 [0 ; 14]
Centre	278 [181 ; 375]	283 [192 ; 374]	26 [0 ; 53]
Champagne-Ardenne	281 [177 ; 385]	313 [91 ; 535]	20 [0 ; 48]
Corse	194 [105 ; 283]	122 [44 ; 200]	6 [0 ; 18]
Franche-Comté	81 [14 ; 148]	162 [78 ; 246]	25 [0 ; 63]
Haute-Normandie	79 [0 ; 200]	262 [56 ; 468]	55 [0 ; 150]
Ile-de-France	359 [266 ; 452]	226 [157 ; 295]	26 [2 ; 50]
Languedoc-Roussillon	407 [271 ; 543]	197 [102 ; 292]	43 [0 ; 90]
Limousin	320 [63 ; 577]	237 [84 ; 390]	20 [0 ; 57]
Lorraine	135 [50 ; 220]	183 [85 ; 281]	0 [0 ; 0]
Midi-Pyrénées	248 [150 ; 346]	143 [69 ; 217]	9 [0 ; 28]
Nord-Pas-de-Calais	221 [140 ; 302]	224 [139 ; 309]	84 [28 ; 140]
Pays-de-la-Loire	331 [159 ; 503]	201 [80 ; 322]	44 [0 ; 106]
Picardie	197 [0 ; 498]	230 [0 ; 503]	0 [0 ; 0]
Poitou-Charentes	24 [0 ; 60]	511 [237 ; 785]	37 [0 ; 87]
Provence-Alpes-Côte-d'Azur	469 [317 ; 621]	288 [148 ; 428]	35 [0 ; 79]
Rhône-Alpes	690 [577 ; 803]	204 [146 ; 262]	50 [23 ; 77]

Table 2 : Incidence rates\* estimation with 95% confidence interval, for each indicator, for each French regions, for week 2016w05 .  
practitioners.

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*The " Réseau Sentinelles" or Sentinelles Network  
(a.k.a. French Communicable Diseases Computer Network)  
is a network of 1393 physicians working throughout the metropolitan regions  
of France including 563 involved in the clinical surveillance activity  
(455 general practitioners and 108 pediatricians)  
enabling the achievement of weekly newsletters.*  
*This network is developped in cooperation between Inserm, Université Pierre  
et Marie Curie (UPMC) and the Institut de Veille Sanitaire (InVS).*

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\* Incidence rates estimate are calculated on the activity of general