

Supplementary material

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S1. Characteristics of BA.2.86^s cases identified in France with a sampling date between 21 August 2023 and 05 November 2023 (n = 638, data from EMERGEN-DB) depending whether they were investigated or not.

Characteristics ¹	Investigated BA.2.86 ^s case (n = 147)		Detected BA.2.86 ^s case not investigated (n = 491)	
Variant				
JN.1 ^s	74	(50.3%)	351	(71.5%)
Other BA.2.86 ^s	73	(49.7%)	140	(28.5%)
Detailed Pango lineage				
BA.2.86	0	(0%)	4	(0.8%)
BA.2.86.1	54	(36.7%)	84	(17.1%)
BA.2.86.2	2	(1.4%)	3	(0.6%)
BA.2.86.3	0	(0%)	1	(0.2%)
JN.1	74	(50.3%)	351	(71.5%)
JN.2	6	(4.1%)	24	(4.9%)
JN.3	7	(4.8%)	13	(2.6%)
JQ.1	4	(2.7%)	11	(2.2%)
Sex (n ₁ =147, n ₂ =490)				
Female	90	(61.2%)	273	(55.8%)
Male	57	(38.8%)	216	(44.1%)
Age (n ₁ =146, n ₂ =489)				
Median (IQR)	58.5	(42.3 - 71.8)	64.0	(48.0 - 82.0)
Range (min – max)		0.0 - 100.0		0.0 - 122.0
Region of residence				
Auvergne-Rhône-Alpes	12	(8.2%)	64	(13.0%)
Bourgogne-Franche-Comté	15	(10.2%)	23	(4.7%)
Bretagne	4	(2.7%)	7	(1.4%)
Centre-Val de Loire	16	(10.9%)	36	(7.3%)
Corsica	3	(2.0%)	5	(1.0%)
Grand Est	12	(8.2%)	63	(12.8%)
Hauts-de-France	13	(8.8%)	39	(7.9%)
Île-de-France	37	(25.2%)	133	(27.1%)
La Réunion	12	(8.2%)	8	(1.6%)
Mayotte	0	(0%)	11	(2.2%)
Normandie	1	(0.7%)	10	(2.0%)
Nouvelle-Aquitaine	2	(1.4%)	31	(6.3%)
Occitanie	8	(5.4%)	39	(7.9%)
Pays de la Loire	2	(1.4%)	12	(2.4%)
Provence-Alpes-Côte d'Azur	10	(6.8%)	10	(2.0%)

¹ For each category, percentages have been calculated for the number of cases with available data

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S2. Proportion of symptoms of JN.1[§] cases compared to previously investigated BA.2.86[§] cases and JN.1[§] compared to BA.4/BA.5[§].

	JN.1 [§] (n = 70) ¹		Other BA.2.86 [§] (n = 71) ¹		p-value ²	BA.4/BA.5 [§] (n = 277) ¹		p-value ²
Asthenia/Fatigue	47	(67.1%)	48	(67.6%)	>0.9	204	(73.6%)	0.09
Cough	33	(47.1%)	44	(62.0%)	0.08	162	(58.5%)	0.03
Fever	40	(57.1%)	30	(42.3%)	0.08	156	(56.3%)	0.7
Headache	35	(50.0%)	30	(42.3%)	0.4	142	(51.3%)	0.5
Rhinorrhoea	35	(50.0%)	28	(39.4%)	0.2	135	(48.7%)	0.8
Myalgia	28	(40.0%)	30	(42.3%)	0.8	113	(40.8%)	0.6
Sore throat	26	(37.1%)	24	(33.8%)	0.7	110	(39.7%)	0.5
Feverish feeling	23	(32.9%)	21	(29.6%)	0.7	52	(18.8%)	0.02
Shortness of breath	10	(14.3%)	16	(22.5%)	0.2	44	(15.9%)	0.6
Anosmia	15	(21.4%)	6	(8.5%)	0.03	44	(15.9%)	0.4
Diarrhoea	7	(10.0%)	11	(15.5%)	0.3	43	(15.5%)	0.2
Ageusia	9	(12.9%)	7	(9.9%)	0.6	49	(17.7%)	0.3
Nausea/Vomiting	4	(5.7%)	4	(5.6%)	>0.9	50	(18.1%)	0.007
Dyspnoea	3	(4.3%)	5	(7.0%)	0.7	21	(7.6%)	0.3
Abnormal pulmonary auscultation (APA)	0	(0%)	1	(1.4%)	>0.9	1	(0.4%)	>0.9
Acute respiratory distress syndrome (ARDS)	0	(0%)	0	(0%)	-	1	(0.4%)	>0.9

¹ For each category, percentages have been calculated for the number of cases with available data

² Chi-square test for categorical variables (Fisher's exact test for small theoretical numbers)

n1=number of JN.1[§] cases. n2=number of other BA.2.86[§] cases. n3=number of BA.4/BA.5[§] cases

Bold indicates statistical significance at the 0.05 level.

S3. Proportion of risk factors of JN.1[§] cases compared to previously investigated BA.2.86[§] cases and JN.1[§] compared to BA.4/BA.5[§].

	JN.1 [§] (n = 33) ¹		Other BA.2.86 [§] (n = 35) ¹		p- valeur ²	BA.4/BA.5 [§] (n=78) ¹		p- valeur ²
Hypertension	8	(24.2%)	15	(42.9%)	0.1	28	(35.9%)	0.2
Diabetes (type 1 or 2)	9	(27.3%)	10	(28.6%)	>0.9	20	(25.6%)	0.9
Cardiac pathology	4	(12.1%)	9	(25.7%)	0.2	17	(21.8%)	0.3
Chronic respiratory pathology	3	(9.1%)	2	(5.7%)	0.7	11	(14.1%)	0.5
Obesity (BMI > 30)	2	(6.1%)	4	(11.4%)	0.7	11	(14.1%)	0.3
Kidney failure	3	(9.1%)	5	(14.3%)	0.7	4	(5.1%)	0.4
Progressive cancer under treatment	3	(9.1%)	1	(2.9%)	0.3	2	(2.6%)	0.2
Asthma	3	(9.1%)	0	(0%)	0.7	1	(1.3%)	0.08
Pregnancy	2	(6.1%)	1	(2.9%)	0.1	1	(1.3%)	0.2
Neuromuscular pathology	1	(3.0%)	1	(2.9%)	>0.9	3	(3.8%)	>0.9
Immunosuppression	1	(3.0%)	0	(0%)	0.5	3	(3.8%)	>0.9
Liver pathology	0	(0%)	2	(5.7%)	0.5	0	(0%)	-

¹ For each category, percentages have been calculated for the number of cases with available data

² Chi-square test for categorical variables (Fisher's test for small theoretical numbers)

n1=number of JN.1[§] cases. n2=number of others BA.2.86[§] cases. n3=number of BA.4/BA.5[§] cases

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S4. Characteristics of infection by JN.1[§] and EG.5[§] from the RELAB data, sampling date from 02/10/2023 to 18/01/2024, mainland France.

	JN.1 [§] (n ₁ = 493)		EG.5 [§] (n ₂ = 133)		p-value ¹
Date of sampling					
Range	02-10-2023 to 18-01-2024		02-10-2023 to 08-01-2024		
Sex					0.86 ³
Female	296	(60%)	81	(61%)	
Male	197	(40%)	52	(39%)	
Age					
Median (IQR)	58	(45 - 72)	55	(41 - 71)	0.41 ²
Fever					0.14 ³
Yes	199	(40%)	60	(45%)	
No	151	(31%)	29	(22%)	
Not specified	143	(29%)	44	(33%)	
Respiratory symptoms					0.98 ³
Yes	246	(50%)	67	(50%)	
No	113	(23%)	31	(23%)	
Not specified	134	(27%)	35	(26%)	
First respiratory symptoms (From the RT-PCR)					0.71 ⁴
less than 24 hours	58	(12%)	13	(9.8%)	
2 to 5 days	135	(27%)	33	(25%)	
6 to 10 days	13	(2.6%)	2	(1.5%)	
Not specified	287	(58%)	85	(64%)	
Vaccination					0.52 ³
Yes	280	(57%)	76	(57%)	
No	40	(8.1%)	7	(5.3%)	
Not specified	173	(35%)	50	(38%)	
Time since last vaccination dose					0.33 ⁴
<15 days	4	(0.8%)	0	(0%)	
15 days-3 months	14	(2.8%)	2	(1.5%)	
3 to 6 months	9	(1.8%)	0	(0%)	
>6 months	191	(39%)	50	(38%)	
Not vaccinated	40	(8.1%)	7	(5.3%)	
Not specified	173	(35%)	50	(38%)	
Vaccinated but time unknown	62	(13%)	24	(18%)	
Ct value (technique Eurobio) (n ₁ =337, n ₂ =102)					0.18 ²
Median (IQR)	19.0	(17.0 - 21.5)	18.4	(16.0 - 20.9)	

¹ *p<0.05; **p<0.01; ***p<0.001

² Wilcoxon rank sum test

³ Pearson's Chi-squared test

⁴ Fisher's exact test

n₁=number of JN.1[§] cases, n₂=number of EG.5[§] cases

Supplementary material

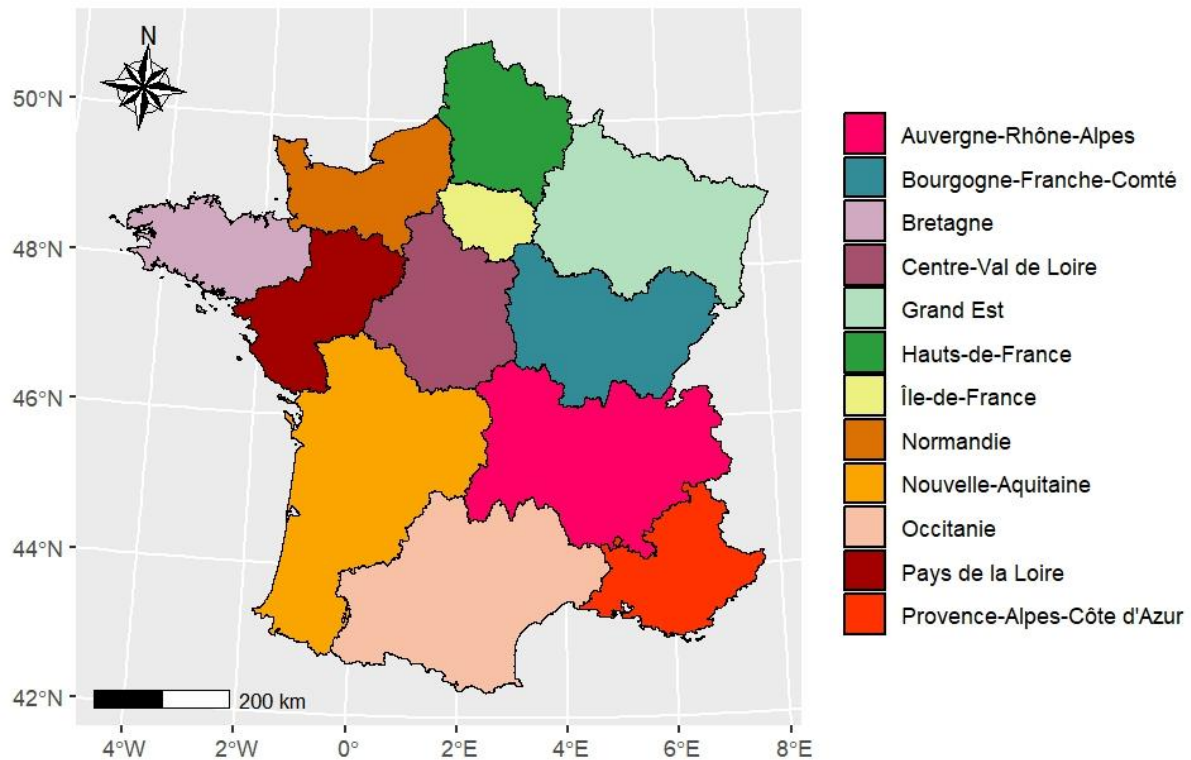


Figure S1. Map of the 12 French regions included in mainland France (excluding Corsica, an island region located in the Mediterranean Sea). The map was made with shapefiles from the ADMIN EXPRESS data product, which is produced by Institut National de l'Information Géographique et Forestière. The shapefiles were last updated on July 30, 2024, and the only modification to them was the removal of Corsica. The shapefiles are available under an open license 2.0 on the open platform for French public data (<https://www.data.gouv.fr/fr/datasets/admin-express/#/resources>).

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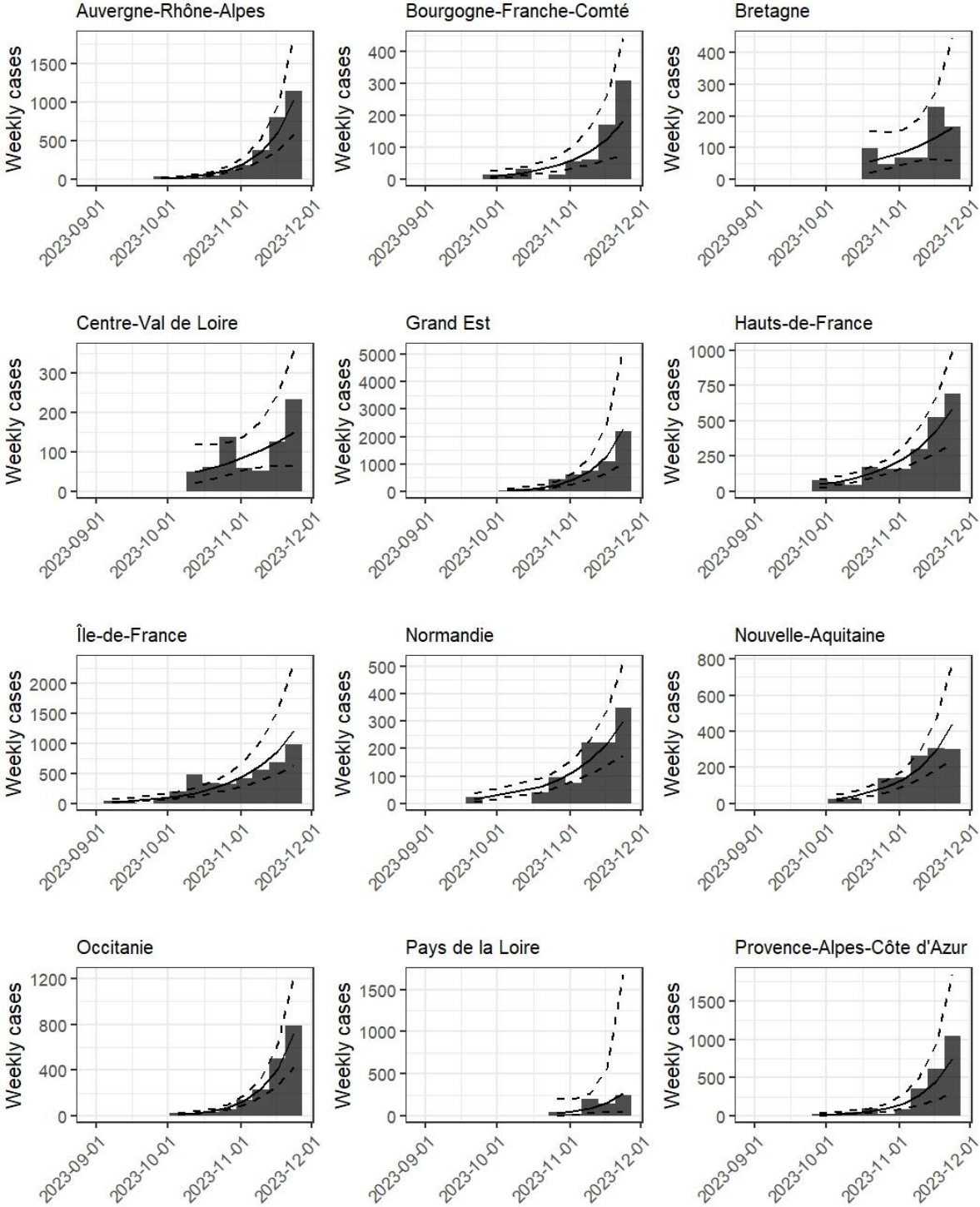


Figure S2. Incidence predictions and 95% confidence intervals from log-linear models for COVID-19 cases due to the JN.1 variant across the 12 regions of mainland France, September 4 – November 20, 2023 (weeks 36–47). The estimates for Bretagne, Centre-Val de Loire, and Pays de la Loire are highly uncertain. Note that the y axes are different in each plot.

Supplementary material

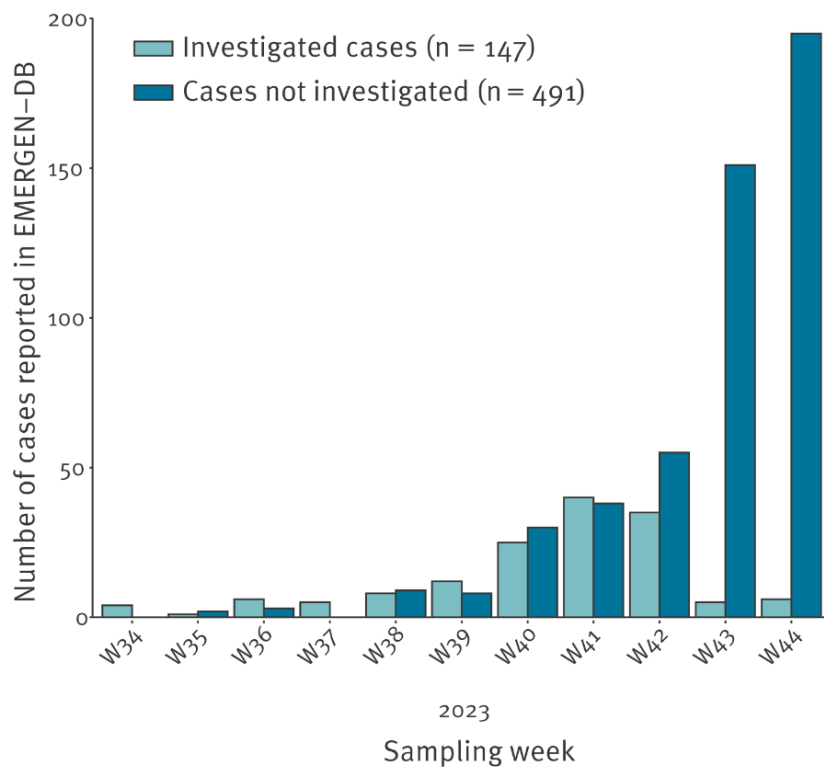


Figure S3. Time distribution of BA.2.86 sequences and BA.2.86 cases that were investigated and uploaded to EMERGEN-DB, by sampling week.