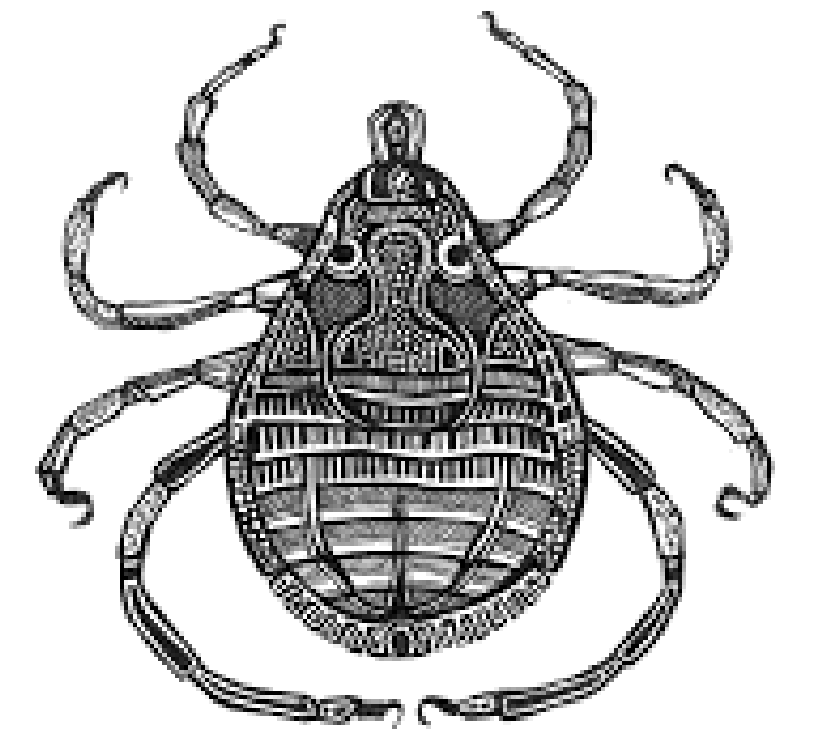


EVOLUTION OF LYME BORRELIOSIS EPIDEMIOLOGY IN PRIMARY CARE AND HOSPITAL SETTINGS IN FRANCE DURING THE COVID-19 PANDEMIC (2020-2021)



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Introduction

'Stay at home' restrictions during the COVID-19 pandemic temporarily modified outdoor recreational activities habits and access to healthcare services was restrained during this period.

This may have impacted the risk of developing a primary or disseminated form of Lyme borreliosis (LB).

This study analysed [incidence rates of LB by age and region in primary care and hospital settings in 2020 and 2021](#) in France and compared them to previous years.

Methods

Incidence rates of LB in [primary care](#) were estimated using data from [the national sentinel network \(SN\)](#) and [electronic medical records \(EMR\)](#) of a network of general practitioners independent of the SN.

[Hospitalization rates](#) were calculated from [the national hospital discharge database \(PMSI\)](#). Hospitalized cases were identified using an algorithm combining three LB-specific ICD10 codes (A69.2, M01.2 and L90.4) and compatible codes for disseminated forms.

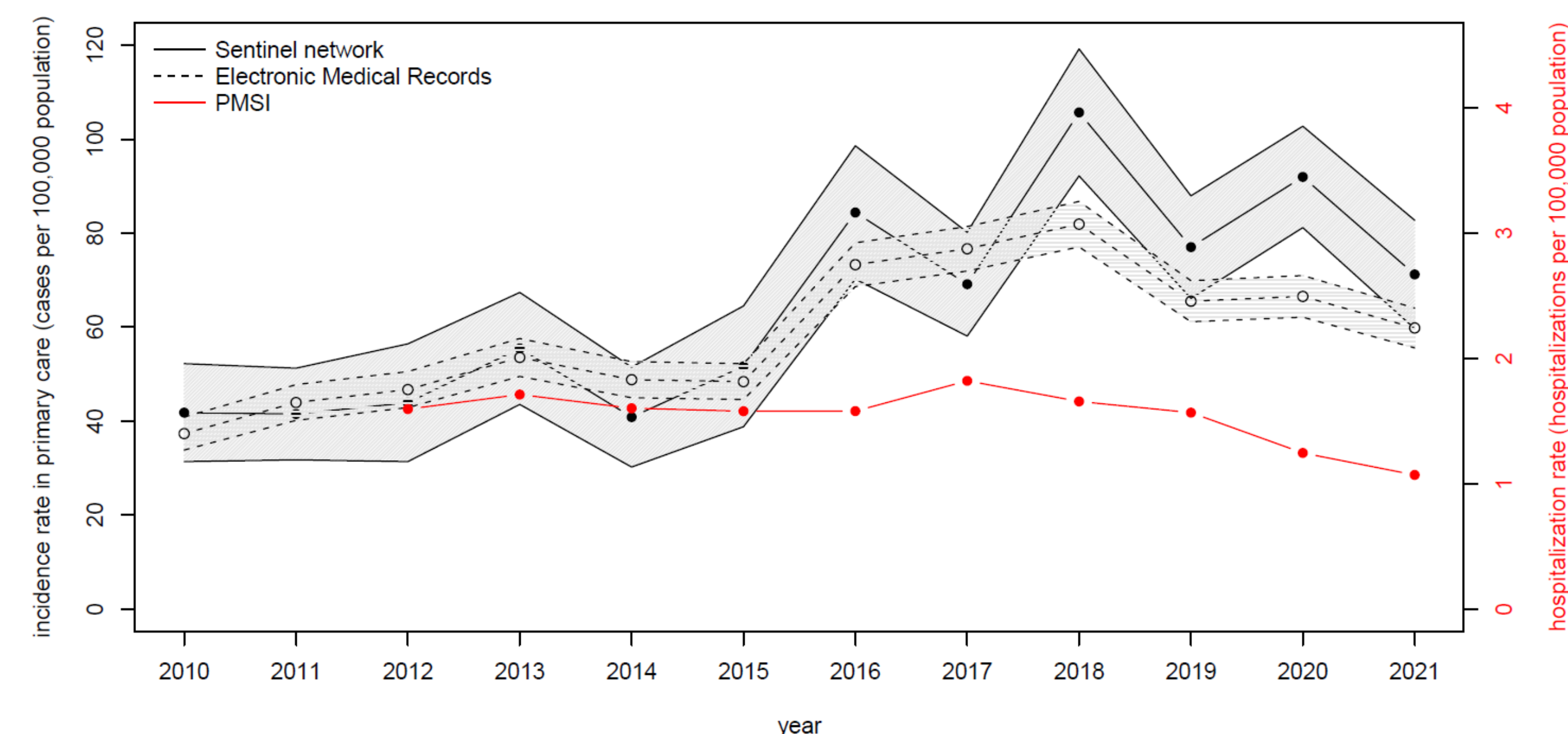
[Average annual rates](#) were calculated to smooth annual variability.

Results

Evolution of incidence rate

Incidence rates in primary care decreased slightly between 2017-2019 and 2020-2021, from 83 cases/100,000 population to 81/100,000 for the SN and 75/100,000 to 63/100,000 for the EMR.

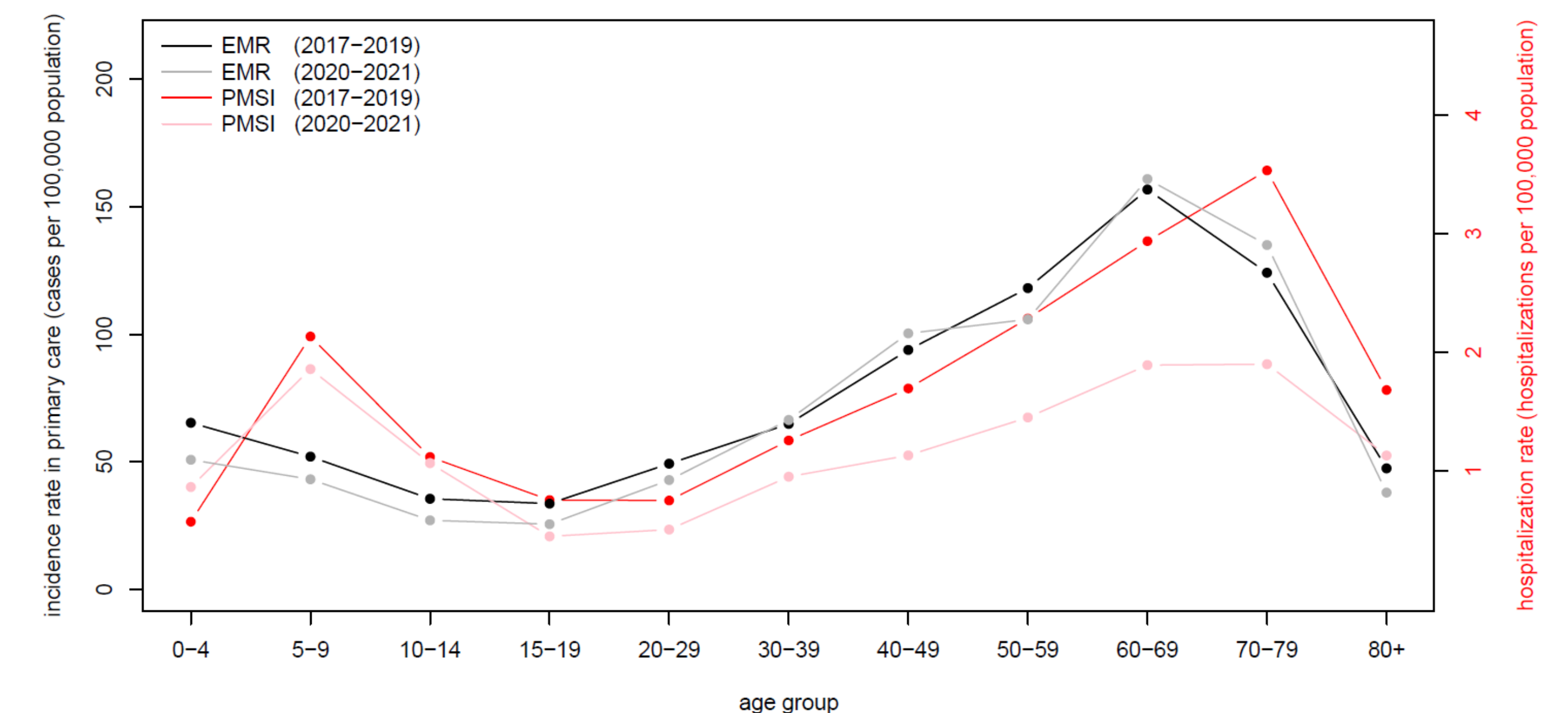
The hospitalization rate significantly decreased, from 1.68 to 1.16 hospitalizations/100,000 population in 2017-2019 and 2020-2021 respectively. The decreasing trend started in 2018.



Average incidence rate by age group

The age distribution in primary care in 2020-2021 was similar to 2017-2019.

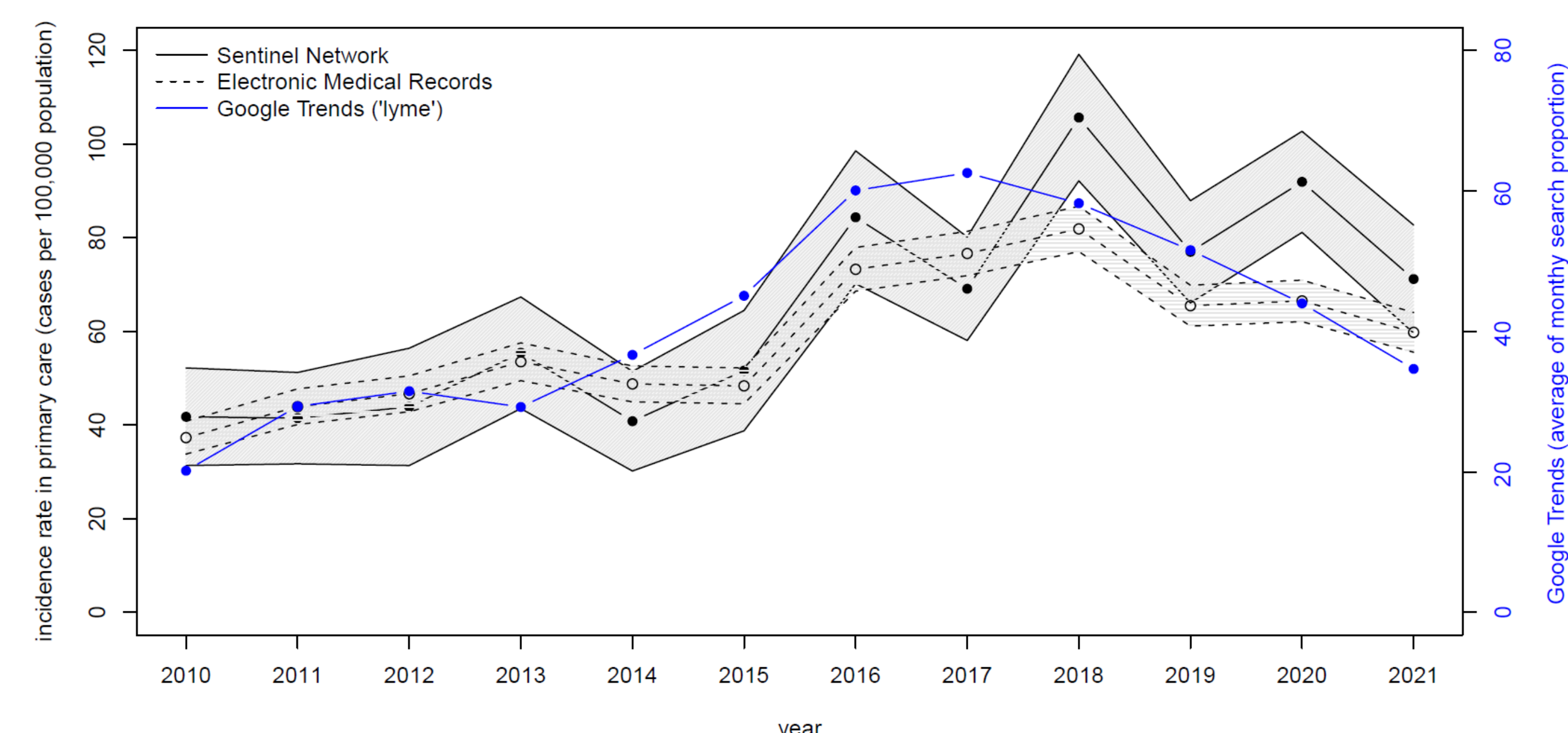
Hospitalization rates remained stable in children 0-4, 5-9 and 10-14 years of age (1.23/100,000 to 1.21/100,000 in 0-14 years) while they decreased in older age groups, from 1.78/100,000 in 2017-2019 to 1.15/100,000 in 2020-2021 in those 15 years of age and older.



Evolution of Google Trends search volume

Google Trends analysis of [search volume for the keyword "Lyme"](#) during the same time period indicated a trend similar to the evolution of [incidence rates in primary care](#) but preceded by approximately one year.

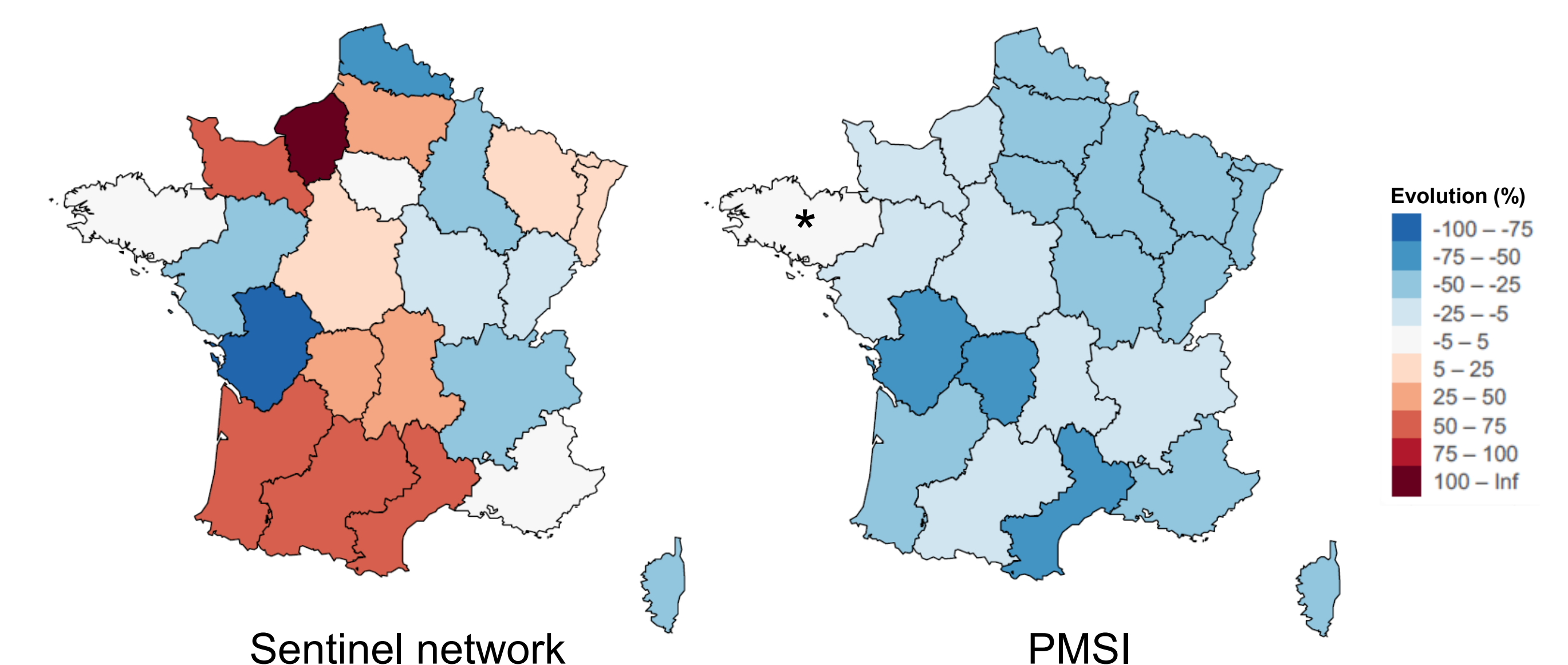
The incidence rates in primary care reached a maximum in 2018 whereas the search volume for "Lyme" peaked in 2017.



Evolution of incidence rate by region

Between 2017-2019 and 2020-2021, [incidence rates increased for 11 regions](#) according to the SN and 5 according to the EMR, on a total of 22 regions.

[Hospitalization rates decreased in all regions](#) between the two study periods, except in Bretagne (*).



Conclusion

Incidence rates in primary care and hospital settings decreased in 2020-2021 compared to 2017-2019.

The decreasing trend started before the COVID-19 era and wasn't amplified in 2020-2021. Also, incidence rates in primary care increased in some regions despite similar restrictions nationwide.

Further analyses will be conducted to explain the evolution of LB epidemiology in 2020-2021.

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