

Paris, March 1, 2022

**Press information**

**Significant Increase in Infant Mortality in France**



In France, for the first time in peacetime, the infant mortality rate has risen significantly in the last ten years. © Adobe Stock

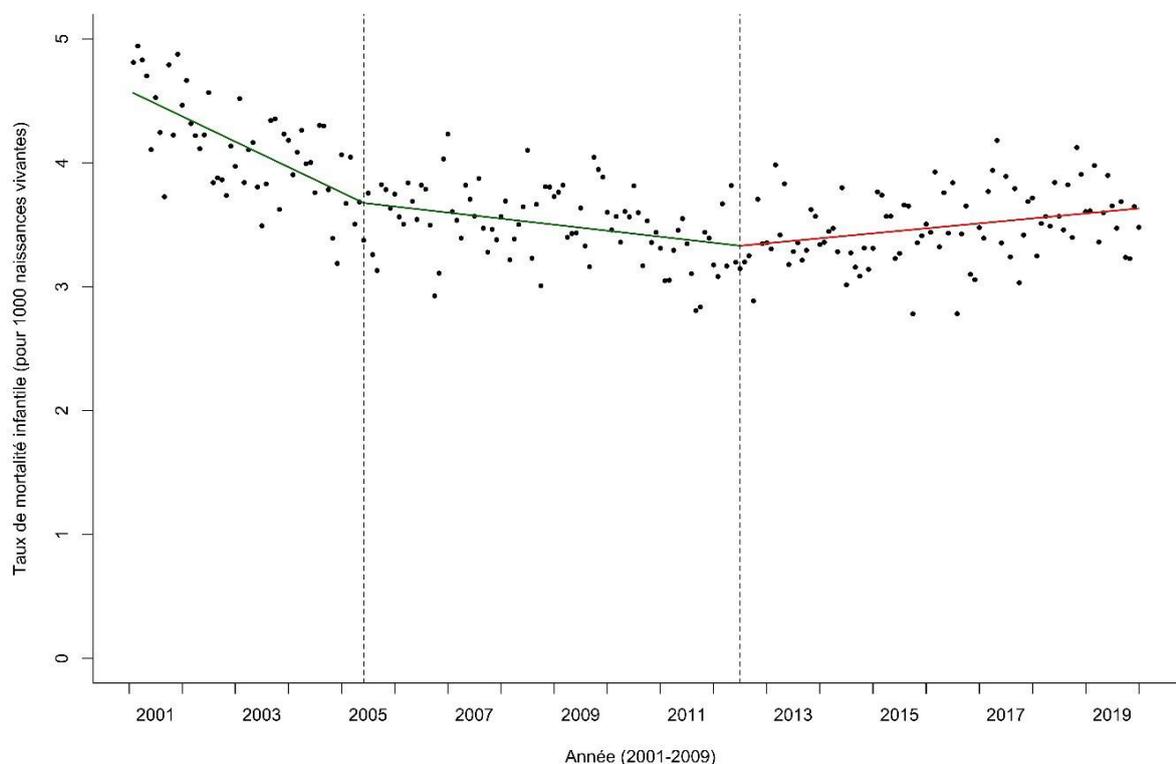
The infant mortality rate (IMR) is a key indicator of population health. In the absence of updated data on the statistical trends of this indicator in France, researchers from Inserm, Université de Paris, the Paris public hospitals group (AP-HP) and Nantes University Hospital, in collaboration with teams from the University of California, analyzed civil registry data from the French National Institute of Statistics and Economic Studies (INSEE) from 2001 to 2019. They identified a significant increase in the IMR since 2012, thereby setting France apart from other high-income countries. The findings, published in [The Lancet Regional Health - Europe](#), reflect the importance of more in-depth research into the precise causes of these 1200 excess deaths observed each year in France before one year of age.

The United Nations have made one of its priority objectives the elimination of preventable deaths in children by 2030. Given that the vast majority of child deaths occur during the first year of life, the infant mortality rate (IMR)<sup>1</sup> is used to track progress towards this goal.

IMR serves as a key indicator of population health, given its strong relationship with the socio-economic development and quality of preventive and curative care in the country. In some high-income countries, such as Finland and Sweden, the IMR has been continuously decreasing since World War II. In other countries, such as France, this decrease appears to be slowing down.

Scientists from Inserm, Université de Paris, the Paris public hospitals group (AP-HP), Nantes University Hospital and the University of California wanted to go further in the statistical analyses of the evolution of the French IMR, and more specifically over the 2001 to 2019 period.

During this study period, the deaths of 53,077 infants were recorded for 14,622,096 live births, giving an average IMR of 3.63/1,000 (4.00 for boys, 3.25 for girls). Around one quarter of the deaths (24.4%) occurred during the first day of life and half (47.8%) in the early neonatal period – the first week following birth.



An in-depth statistical analysis identified two inflexion points, in 2005 and 2012 (see figure above). The IMR saw a sharp decrease from 2001 to 2005, and then a slower decrease from 2005 to 2012. From 2012, a significant 7% increase in the IMR was observed. This meant that infant mortality rose from 3.32 in 2012 to 3.56 deaths per 1,000 live births in 2019. Sensitivity analyses<sup>2</sup> showed this trend to be unrelated to changes in registering practices or changes in medical practices for the management of newborns with serious conditions. Subgroup analyses showed this increase to be mainly due to an increased IMR in the early neonatal period.

<sup>1</sup> Infant mortality rate (IMR) is defined as the number of deaths of children under one year of age (D0-D364) per 1,000 live births over a given period

<sup>2</sup> Additional analyses to support the robustness of the main analyses

"Thanks to in-depth statistical analyses, we have identified a significant increase in the infant mortality rate in France since 2012. When comparing the data against other European countries with similar economies, such as Sweden and Finland, we observe that every year in France there is an excess of around 1,200 deaths of children under one year of age," explains Prof. Martin Chalumeau, last author of the study. "It is essential to be able to explore in detail the causes of this increase by having, for example, systematic information on the specific medical and social circumstances of these deaths and by making this population, which is the most vulnerable, a real research and public health priority, which is not the case at present," the researcher concludes.

## Sources

### Recent historic increase of infant mortality in France: a time-series analysis, 2001 to 2019

Nhung TH Trinh<sup>1</sup>, Sophie de Visme<sup>1,2</sup>, Jérémie F. Cohen<sup>1,3</sup>, Tim Bruckner<sup>4</sup>, Nathalie Lelong<sup>1</sup>, Pauline Adnot<sup>3</sup>, Jean-Christophe Rozé<sup>2,5</sup>, Béatrice Blondel<sup>1</sup>, François Goffinet<sup>1,6</sup>, Grégoire Rey<sup>7</sup>, Pierre-Yves Ancel<sup>1,8</sup>, Jennifer Zeitlin<sup>1</sup>, Martin Chalumeau<sup>1,3</sup>

<sup>1</sup>Université de Paris, Centre of Research in Epidemiology and Statistics (CRESS), Obstetrical, Perinatal and Pediatric Epidemiology research team, INSERM, F-75004 Paris, France

<sup>2</sup>Centre d'Investigation Clinique, CIC 1413, INSERM, Nantes University Hospital, Nantes, France

<sup>3</sup>Department of General Pediatrics and Pediatric Infectious Diseases, AP-HP, Hôpital Necker - Enfants malades, Université de Paris, Paris, France

<sup>4</sup>Program in Public Health and Center for Population, Inequality, and Policy, University of California, Irvine, CA, USA

<sup>5</sup>Department of Neonatology, Nantes University Hospital, Nantes, France

<sup>6</sup>Maternité Port-Royal, AP-HP, Hôpital Cochin, Université de Paris, Paris, France

<sup>7</sup>Center for epidemiology on medical causes of death (CépiDc), INSERM, Le Kremlin-Bicêtre, France

<sup>8</sup>Clinical Investigation Centre P1419, Assistance Publique-Hôpitaux de Paris, Paris, France

[Lancet Regional Health Europe](#), 1 March 2022

## Researcher contact

### Martin Chalumeau

Inserm - Université de Paris Unit 1153, Center of Research in Epidemiology and Statistics (CRESS) Obstetrical, Perinatal and Pediatric Epidemiology Research Team (EPOPé)

Email: [martin.chalumeau@inserm.fr](mailto:martin.chalumeau@inserm.fr)

Telephone number

provided upon request

## Press contact

[presse@inserm.fr](mailto:presse@inserm.fr)



[Inserm press room](#)