

Childhood lead poisoning screening activity in France between 1995 and 2002



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Background

- Lead poisoning: Neurodevelopmental and hematopoietic damage, especially in young children.
- Main risk factor: deteriorated lead-based paint in old buildings (built before 1948).
- Creation of a National Childhood Lead Poisoning Monitoring System in France in 1995.
- Screening: targeted to children with a high probability of exposure to lead.

Objectives

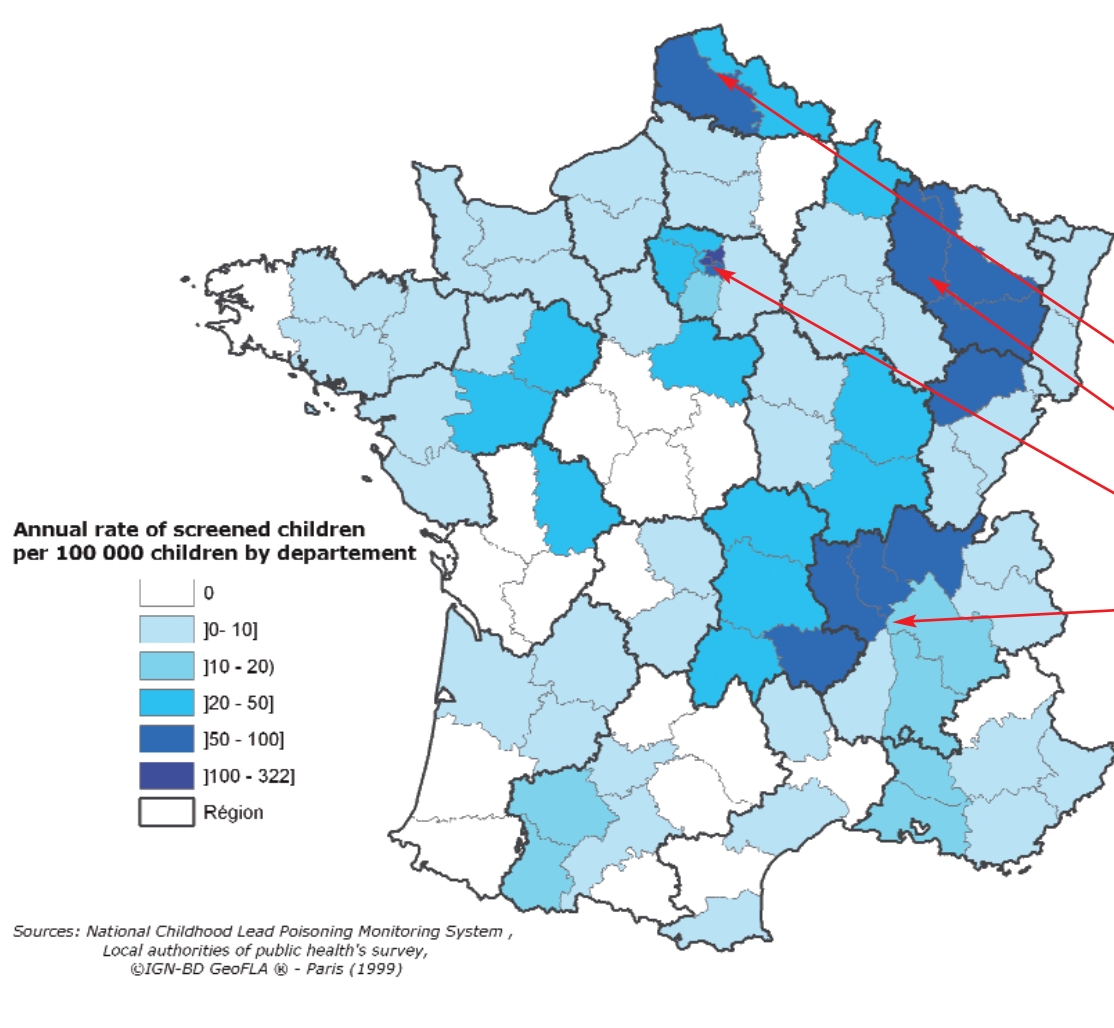
- 1) To count children screened for lead poisoning and new cases (blood lead level $\geq 100 \mu\text{g/L}$).
- 2) To describe their distribution over time and geographically, their characteristics and their risk factors for lead poisoning.

Population and methods

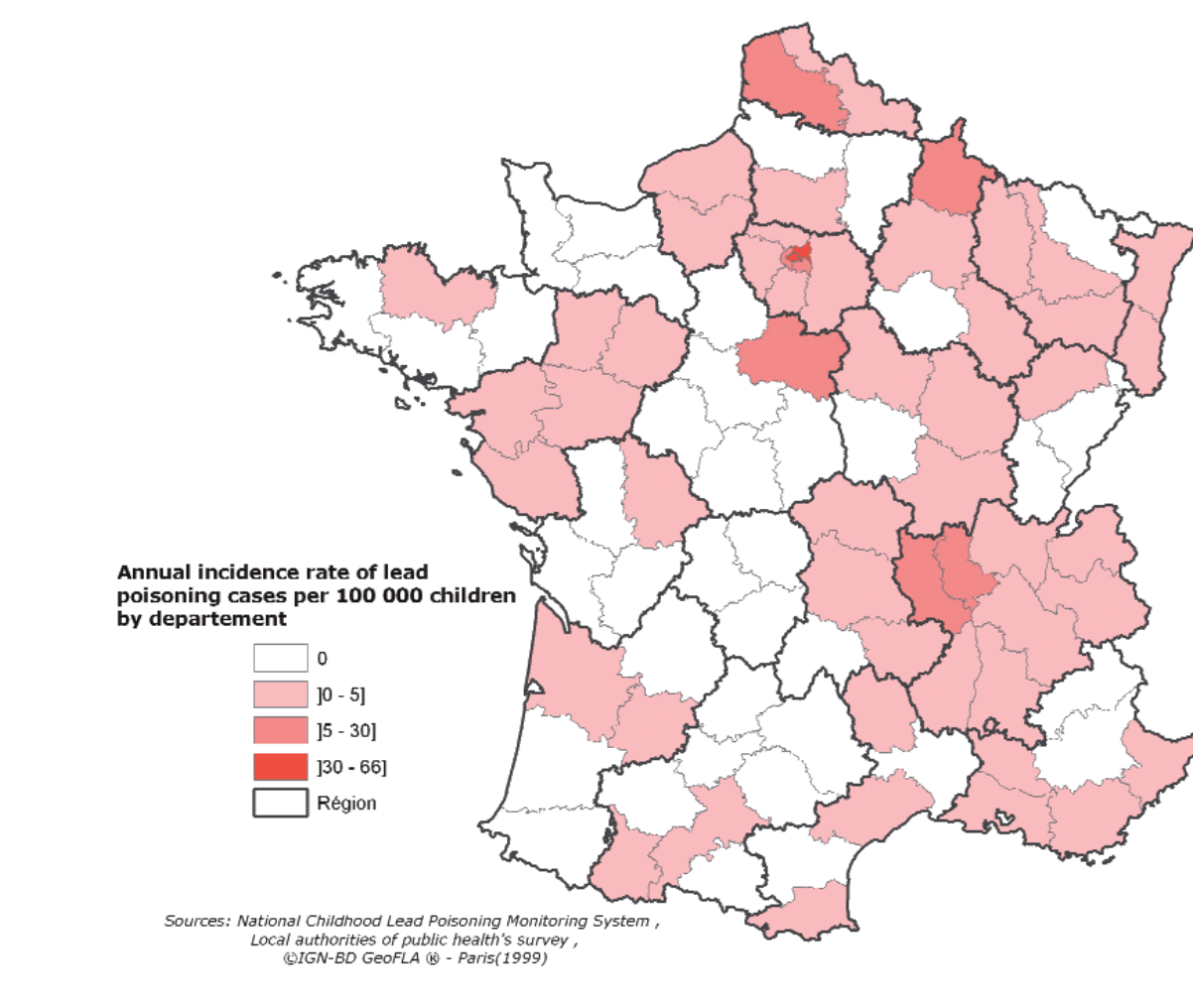
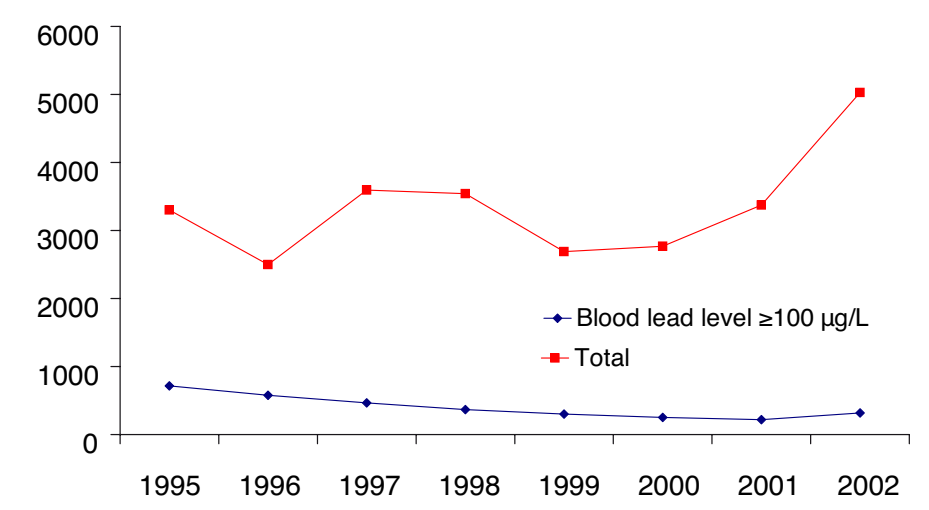
- Population: children who had one or more blood lead test in France between 1995 and 2002.
- Sources:
 - data recorded in the National Childhood Lead Poisoning Monitoring System,
 - questionnaires filled in 2003 by the local authorities of public health in each department about data collected from 1995 to 2002.

Results

- 36 151 children screened (35/100 000 children per year): 2.9 years on average (± 2.4).
- Screening probability for a child under 7 = 0.6%.
- 5974 new lead poisoning cases (17/100 000 children per year): 2.1 years on average (± 2.2).
- Screening efficiency: among 7 screened children, 1 lead poisoning case detected.



Région	Part of screening activity	Part of children living in the region
Nord/Pas-de-Calais	8,9%	7,8%
Lorraine	4,8%	4,0%
Ile-de-France	60,7%	19,4%
Rhône-Alpes	12,6%	10,1%
Other regions	13,0%	58,7%
Total France	100,0%	100,0%



Motive for blood lead testing

	N (%*)	$\geq 100 \mu\text{g/L}$	%
Old and deteriorate housing	12744 (45.9)	2156	16.9**
Recently repaired old housing	1949 (7.0)	202	10.4
Pica	3726 (13.4)	833	22.4
Other poisoned children	3434 (12.3)	914	26.6
Parent's occupation	544 (2.0)	87	16.0
Parent's hobby	1018 (3.7)	145	14.2
Tap water	1416 (5.1)	158	11.2
Industrial environment	1062 (3.8)	153	14.4
Other motive	3166 (11.4)	447	14.1

* Proportion of the 27 553 recorded children.

** Among children living in old and deteriorate housing, 16.9% had a blood lead level $\geq 100 \mu\text{g/L}$
Source: National Childhood Lead Poisoning Monitoring System.

Conclusion

- Decrease of the number of childhood lead poisoning cases diagnosed each year in France since 1995.
- Screening efficiency: more and more screened children and less and less lead poisoning cases.
- But a very small part of children under 7 screened for lead poisoning.
- A large geographical heterogeneity: most of screened children and incident cases concentrated in the Ile-de-France region (Paris and suburb).
- Lead poisoning risk factors:
 - most of poisoned children detected because of their living in an old and deteriorate housing,
 - among children with pica or living with other poisoned children: 25% with a blood lead level $\geq 100 \mu\text{g/L}$. But relatively few poisoned children detected according to these factors.

References

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