

Epidemiology and surveillance of meningococcal disease in France in 2004



INSTITUT DE
VEILLE SANITAIRE

Isabelle Parent du Châtelet
12, rue du Val d'Osne - 94415 St-Maurice Cedex - FRANCE
Tél. : 33 (0)1 41 79 68 74 Fax : 33 (0)1 41 79 68 72
i.parent@invs.sante.fr

Anne Perrocheau, Isabelle Parent du Châtelet
Department of infectious diseases – Institut de veille sanitaire (InVS), Saint-Maurice

Background

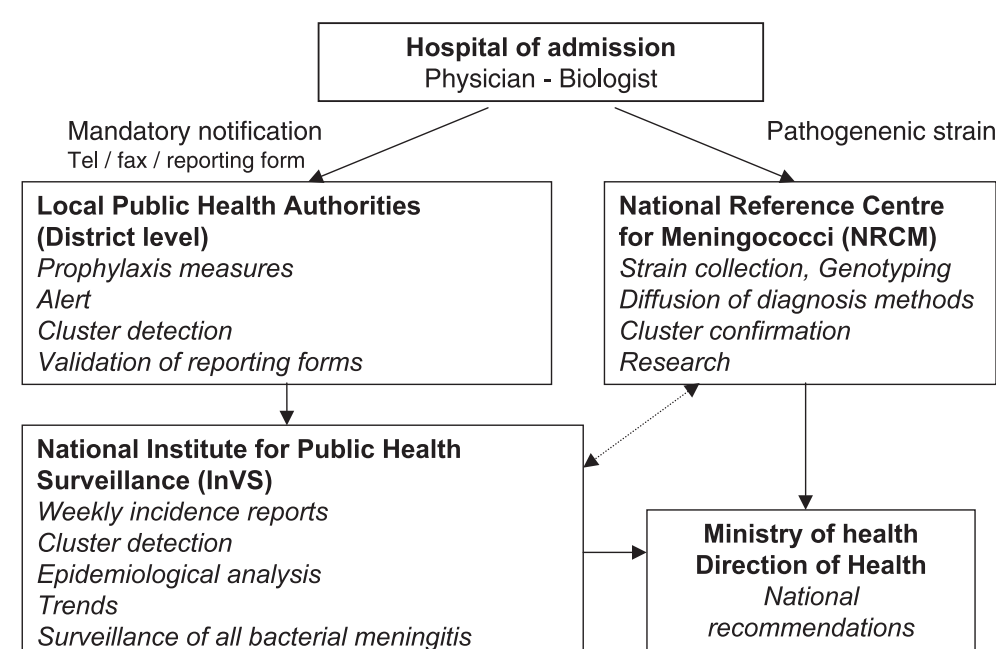
France belonged to the group of European countries with a low IMD incidence rate varying between 1 and 2/100,000 for 10 years.

Most of cases are sporadic. The number of reported cases through mandatory notification has been increasing each year from 1996 to 2003 and decreased in 2004.

The exhaustivity of the IMD mandatory notification system has regularly been assessed with the capture-recapture analysis. It increased from 50 to 80% between 1990 and 2004 and is used to adjust the observed incidence rate.

Methods

Surveillance network



Data from InVS and CNRM are not currently linked because of lack of common data due to legislation requiring anonymous data reported to InVS. A project to link data is in process.

Case definition

Before July 2002 :

- N.m strain isolated from blood or CSF or positive latex in blood, urines or CSF

After July 2002 :

- Positive culture of N.m from any sterile site
- Diplococcus gram negative in CSF
- *Purpura fulminans* (Waterhouse-Friderichsen syndrome)
- CSF compatible with bacterial meningitis and (1) positive PCR or (2) petechies or (3) positive latex in blood, urines or CSF

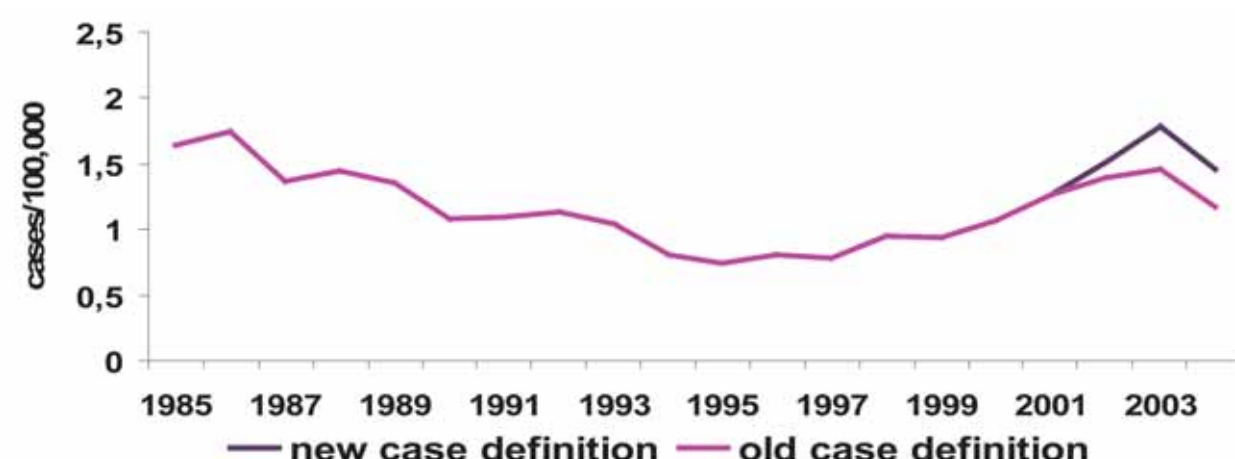
Results

699 cases have been reported :

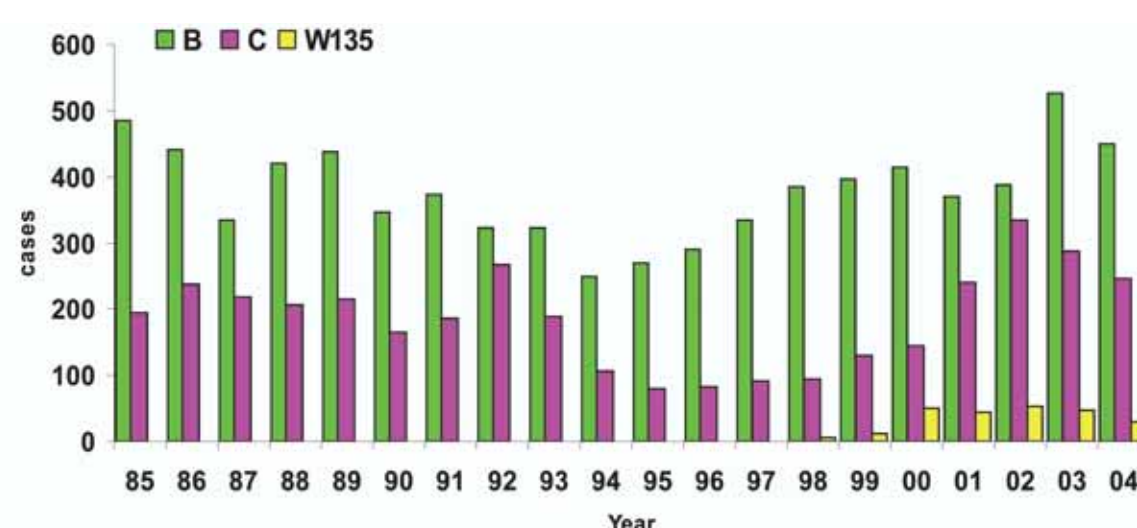
629 (90%) were laboratory confirmed (culture, PCR, ags test, diplo gram – in CSF)

70 (10%) were possible cases (*purpura fulminans*, bacterial meningitis + petechies).

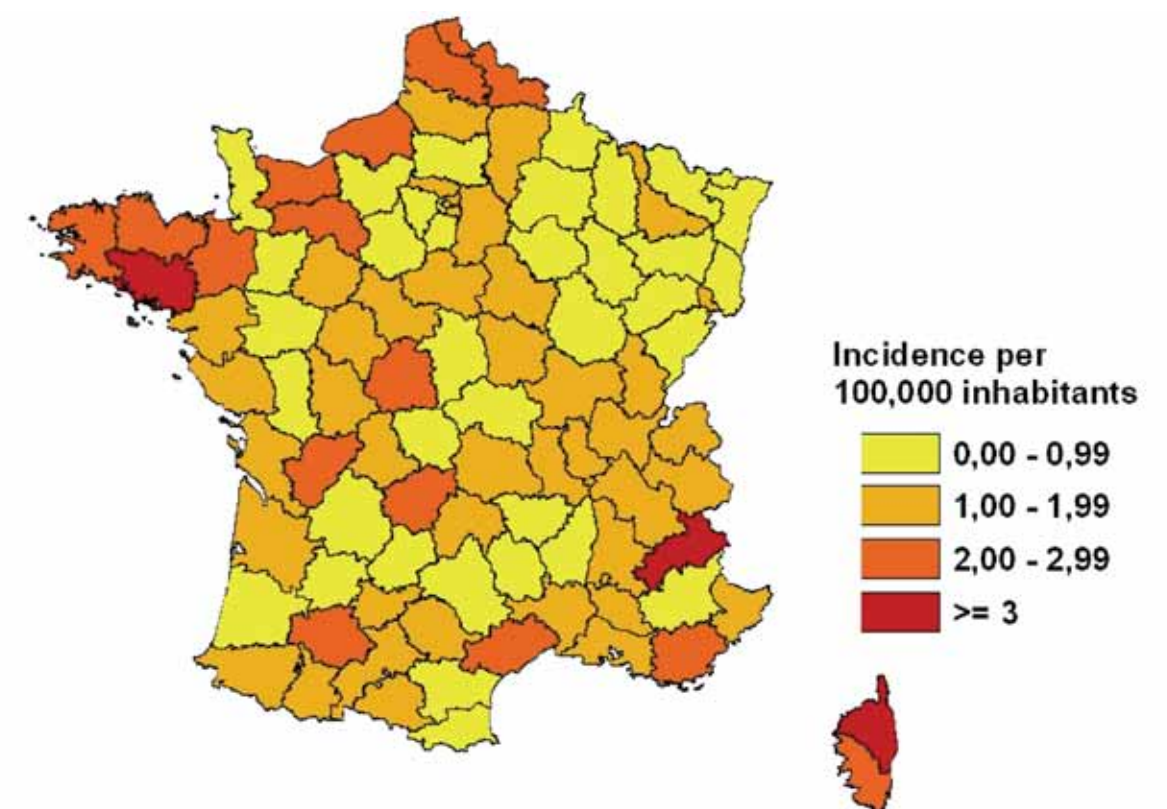
IMD incidence rate corrected for under-reporting, France 1985-2004



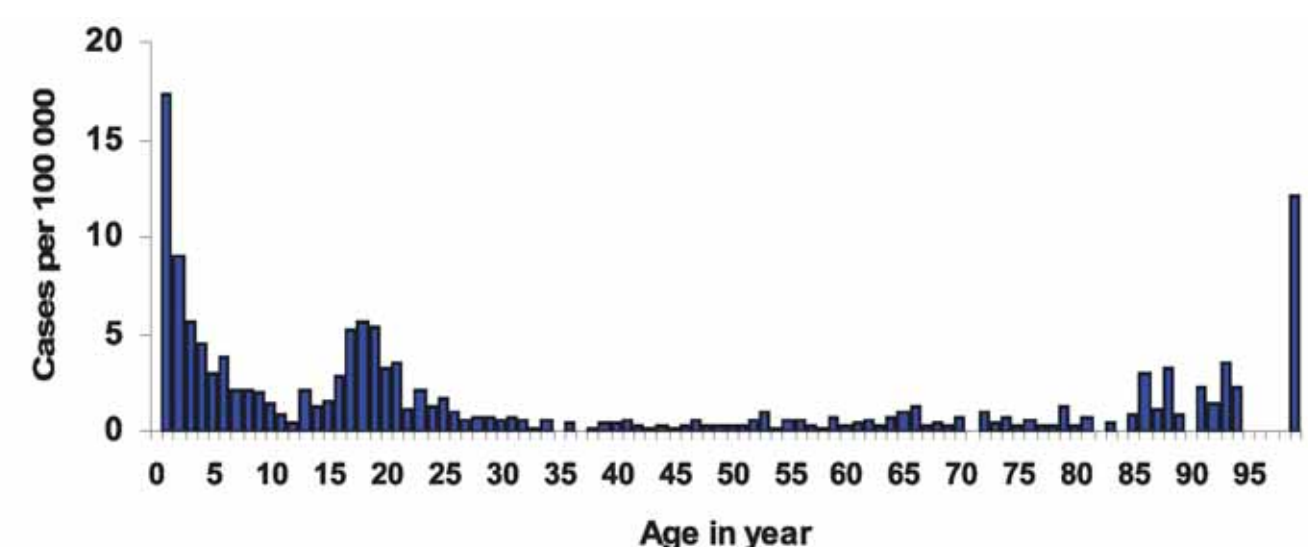
Evolution of IMD cases of serogroup B, C, W135, corrected for under-reporting, France 1985-2004



IMD Incidence rate per district, corrected for under-reporting, France, 2004



Age specific IMD incidence rates, corrected for under-reporting, 2004



Number of observed IMD cases and case fatality rates in 2004

	Cases	Case fatality rate
Age group in years	n	%
<1	100	15.3
1-4	130	14.0
5-14	109	6.7
15-24	201	8.0
>= 25	159	17.8
Total	699	12.2
Serogroup	n	%
B	360	6.3
C	197	21.4
W135	25	20.0
Others	27	18.5
Total	609	12.2

Outbreak in Seine Maritime, 2004

Hyper-endemic situation in the Seine Maritime district (North Western part of the country) with incidence rate of 3.1 per 100,000 inhabitants (11/100,000 in the town of Dieppe) in 2004. 40% of cases presented with *purpura fulminans*

Serogroup B belonging to the clonal complex ET5/ST32, antigenic formula B14:P1.7,16 is responsible for the situation

Probable contribution of medical and general public awareness through information campaigns and meetings resulted on the decrease of the initially high case fatality rate

Ongoing discussions about the use of the B OMV vaccine: MenBvac

Conclusions

- After correction for underreporting, the estimated IMD incidence rate is equal to 1.46/100,000 in 2004 in France.
- First incidence decrease observed since 1995, all serogroups are concerned.
- No routine vaccination against meningococci C in France adopted.
- Lowering of incidence rates with age : highest values among infants (17/100,000), between 1 and 4 years old (5.6/100,000) and between 15 and 24 years old (3.2/100,000).