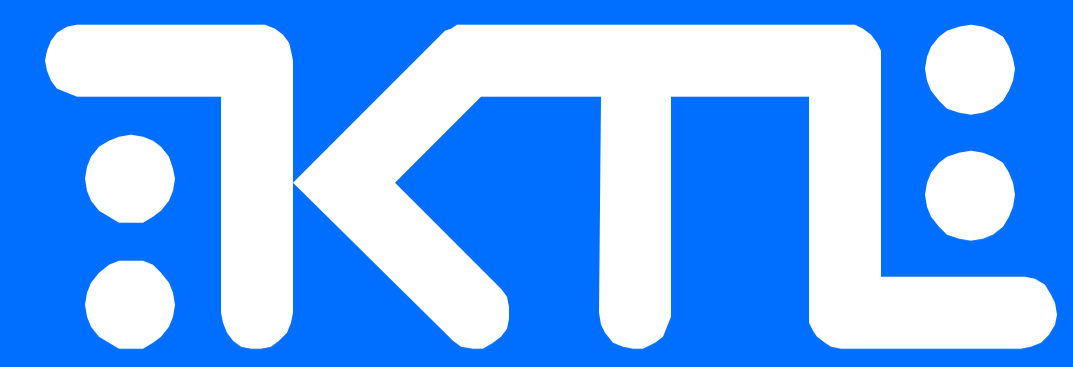


# Invasive meningococcal disease in Finland in 1995-2004

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## Background

After having a group A meningococcal epidemic in the 1970's, there has been no major epidemics or outbreaks in Finland.

The increase of group C disease in many European countries necessitates the assessment of epidemiological trends in Finland in relation to the present vaccination policies.

We report here the trends in invasive meningococcal disease in Finland in 1995-2004

## Methods

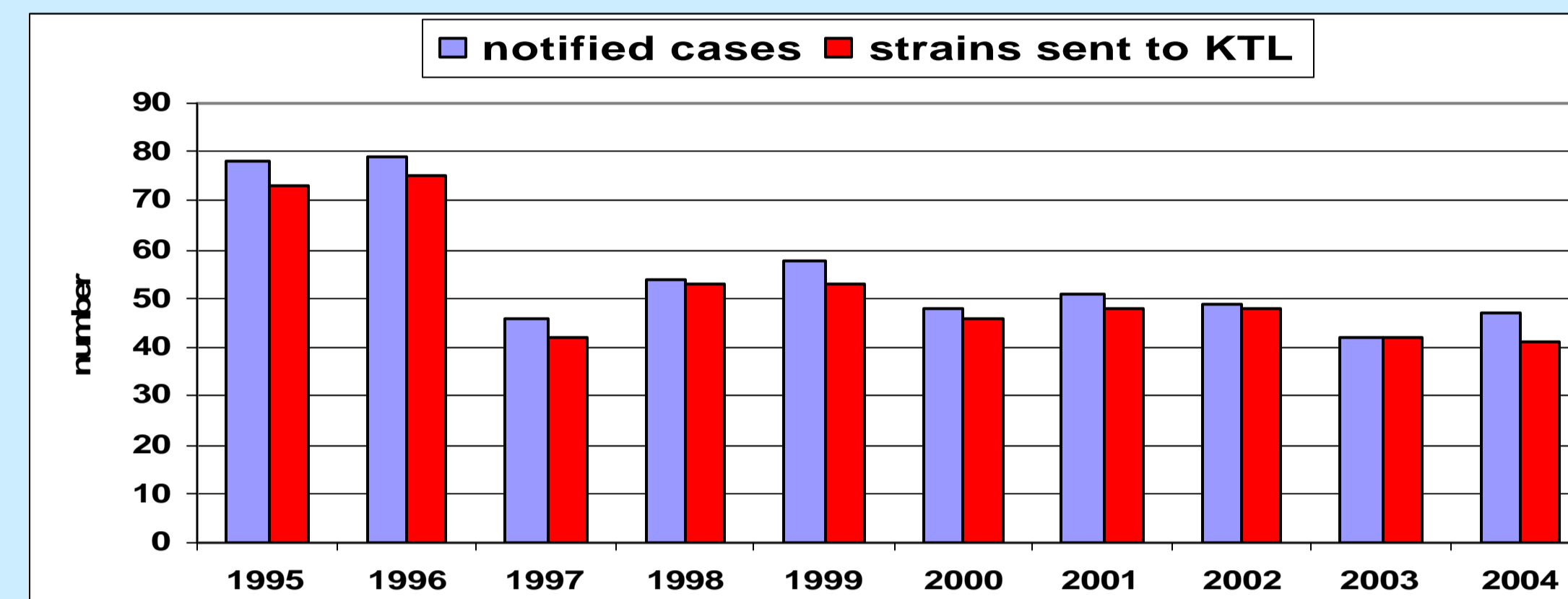
The statutory notification of invasive meningococcal disease to the National Infectious Disease Register has been in place in Finland since 1994. The clinical microbiological laboratories notify all positive CSF/blood culture, antigen detection and/or PCR findings, and the clinicians notify all laboratory confirmed cases. The majority of notifications are culture proven diseases. Approximately 80% of notifications are reported electronically directly to the National Register.

The clinical microbiological laboratories are requested to send the corresponding CSF or blood isolates to the KTL reference laboratory.

After receiving the isolates, the reference laboratory immediately confirms their serogroup by slide agglutination, and performs in batches (twice/year) serotyping and serosubtyping by whole cell EIA using monoclonal reagents from NIBSC.

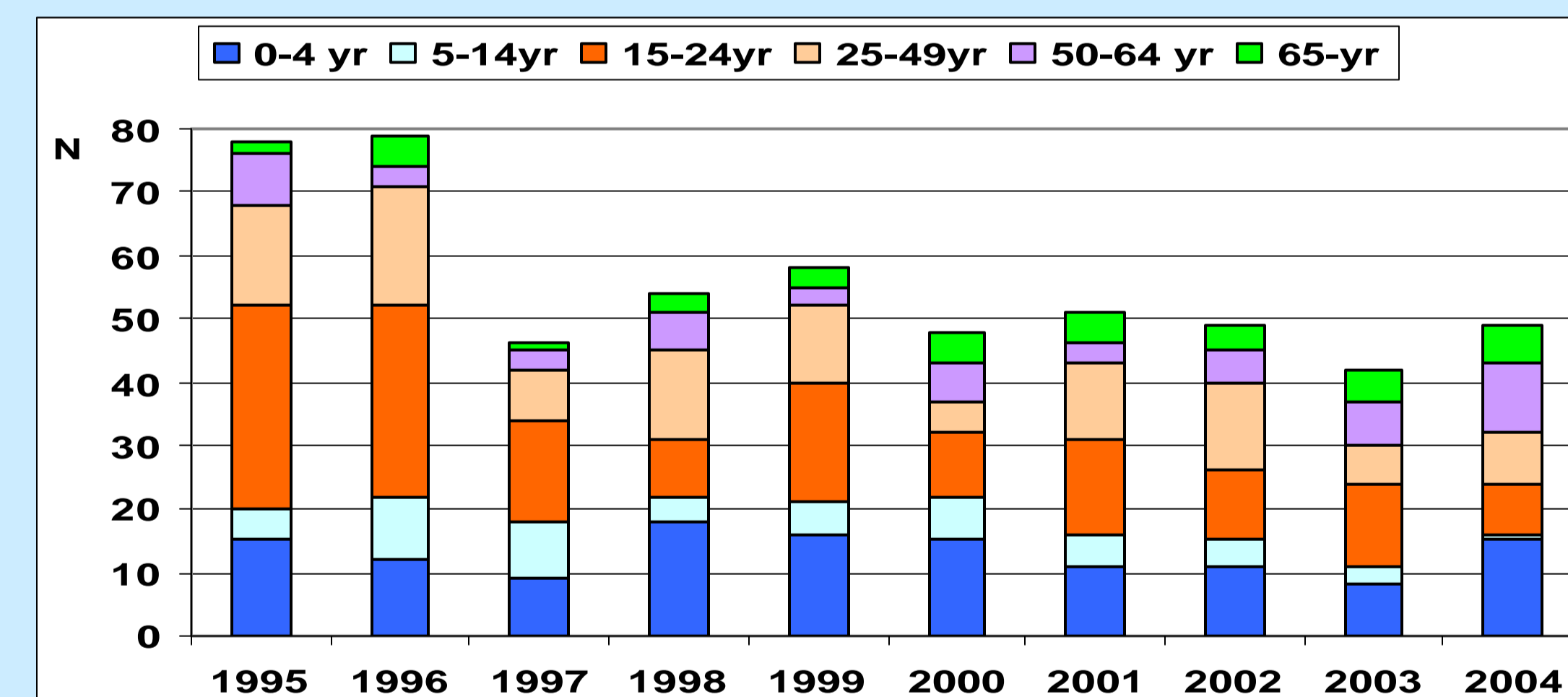
## Results

### Number of notified cases and isolates sent to the KTL reference laboratory



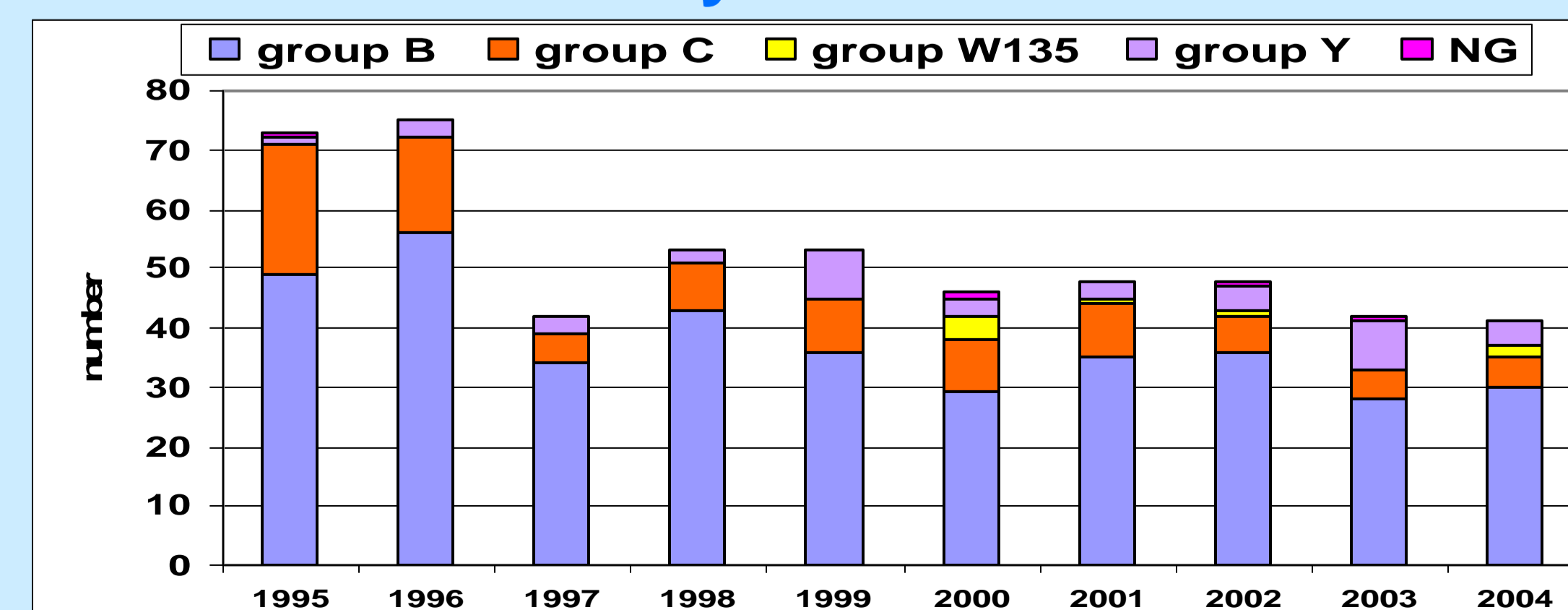
The incidence has varied between 0.8 and 1.5/100 000/yr. The numbers of notifications and isolates referred to KTL correspond well with each other.

### Age distribution of notified cases



Most cases occurred at the ages of 0 to 4 and 15 to 49 yrs (63-81%). There was an increase in 1995-6 among 15- to 24-year-olds (40% vs. 16-30% in 1997-2004).

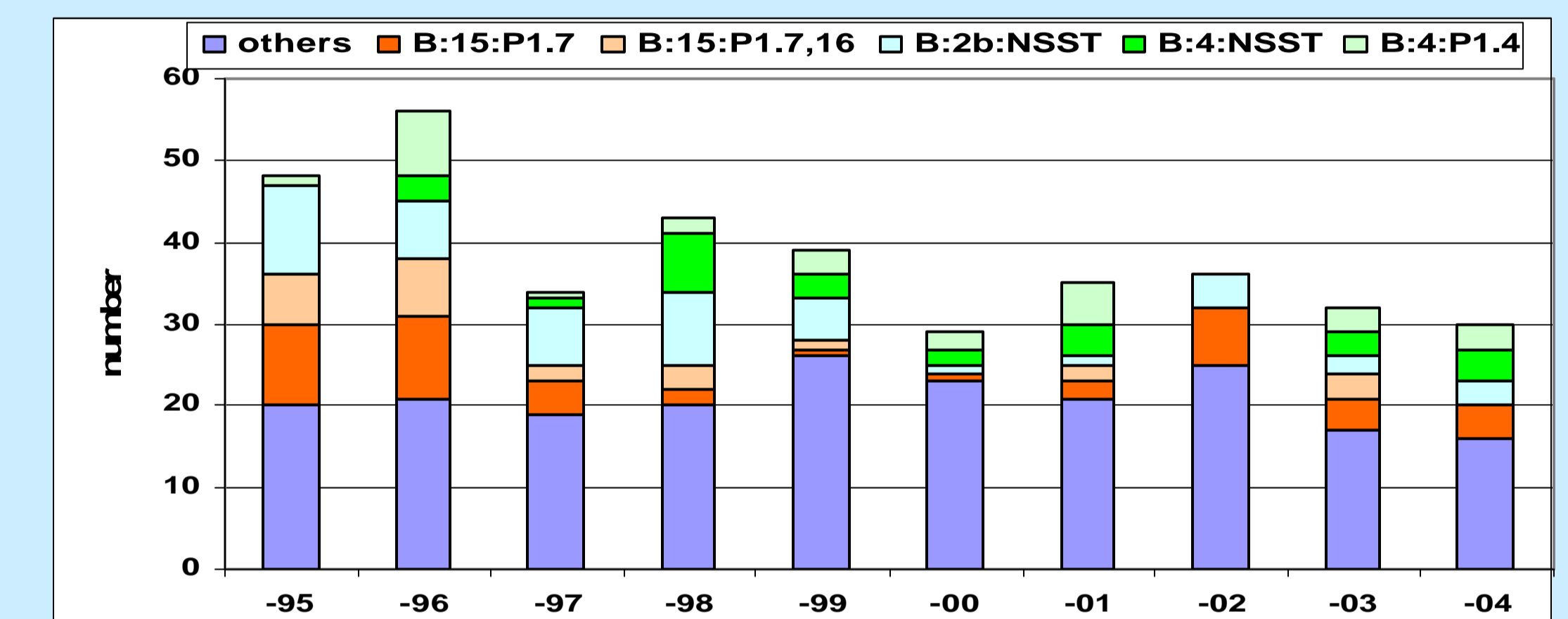
### Serogroup distribution of isolates sent to the reference laboratory



The most prevalent group has been B (63-81%), followed by group C (12-30%). The increase in 1995-6 was caused by both group B and group C strains.

### Prevalent phenotypes based on serotyping and serosubtyping

#### Group B:



The phenotypes vary and other than indicated types caused >50% of cases. The increase in serogroup B disease in 1995-6 was caused by B:15 clone, which still caused 4-7 cases/yr in 2001-4.

#### Group C:

The most common phenotypes have been C:2a:P1.5 and C:2a:NSST (40%), which also caused the increase in serogroup C disease in 1995-6.

## Conclusions

The national notification system guarantees up-to-date information on the trends of meningococcal disease in Finland.

During the past ten years there has been no major changes in the incidence of invasive meningococcal disease in Finland

The total number of cases and the incidence (appr. 1/100 000/yr) has remained low.

Since 1997, the number of group C cases has been only <10/year (incidence <0.2/100 000/yr). Group C meningococcal vaccination has not been considered to be included in the national childhood vaccination program.