Pneumococcal vaccination and ventilation tube insertion

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BACKGROUND

- Acute otitis media (AOM) is the 2nd most common disease among children in the western world
- 1/3 of these children develop recurrent AOM
- Treatment: ventilation tube insertion
- Pneumococcus is the most frequent pathogen
- 2007: Pneumococcal vaccination of children introduced in Denmark

PURPOSE

- Is the introduction of the pneumococcal conjugate vaccine in Denmark associated with a decrease in the rate of VT insertions in children below the age of two years?

METHODS

- Patients: All children aged 0-2 years in Region Midtjylland treated with first time VT insertion between 2001-2011
- Assumption: R-AOM is most frequently involved in the VT indication in this age-group
- Statistics: Age and sex adjusted annual incidence rate with 95% CI

PATIENTS

- 27,837 children aged 0-2 years (2001-2011)
- Mean age: 14.8 months
- Sex: 59.2 % of the individuals were male

VACCINE COVERAGE

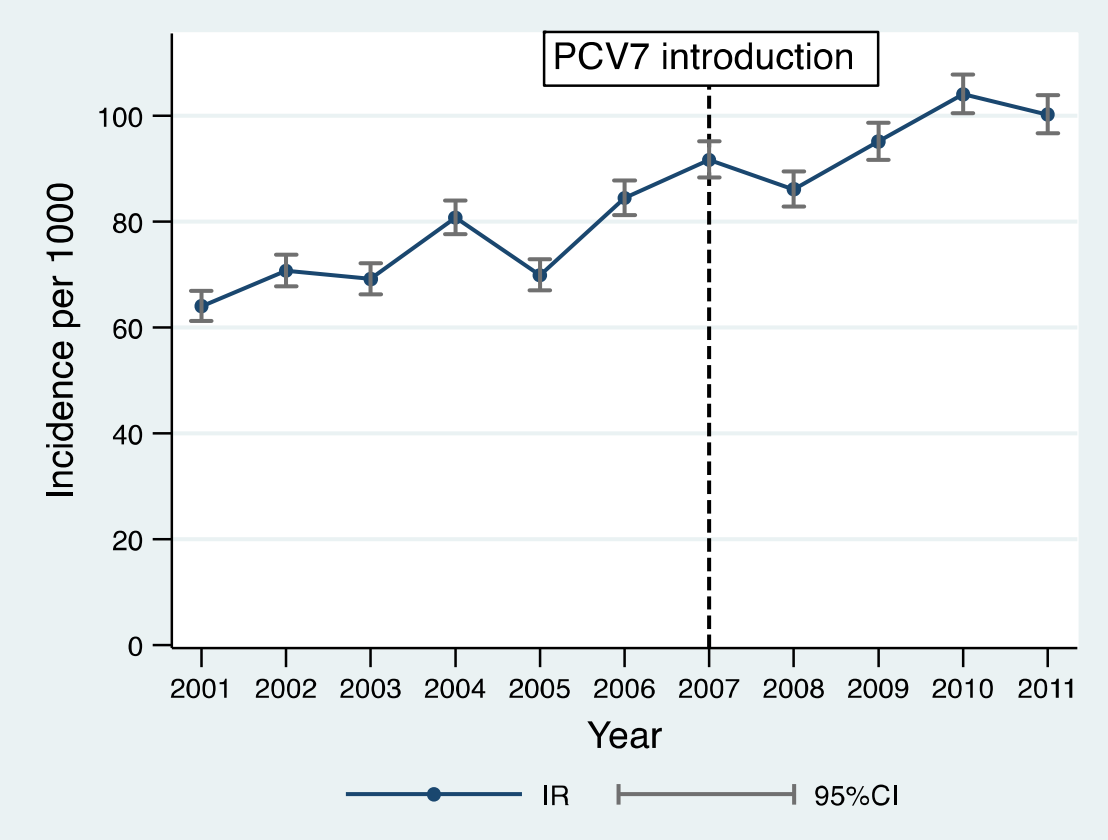
IN REGION MIDTJYLLAND

Birth cohort	1st dose	2nd dose	3th dose
2007-2011	86-93 %	82-93 %	81-92 %
Catch-up program	51-71 %	51-71 %	51-71 %

Coverage is high!

RESULTS

ANNUAL INCIDENCE

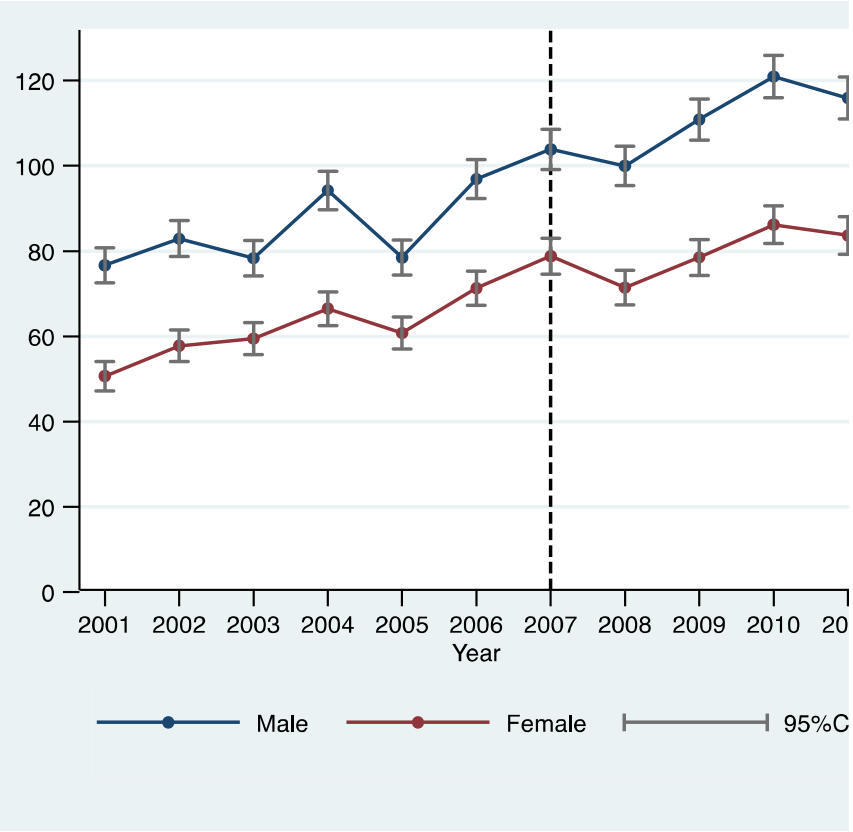


IRR= 1.27 (95%CI 1.24-1.30)

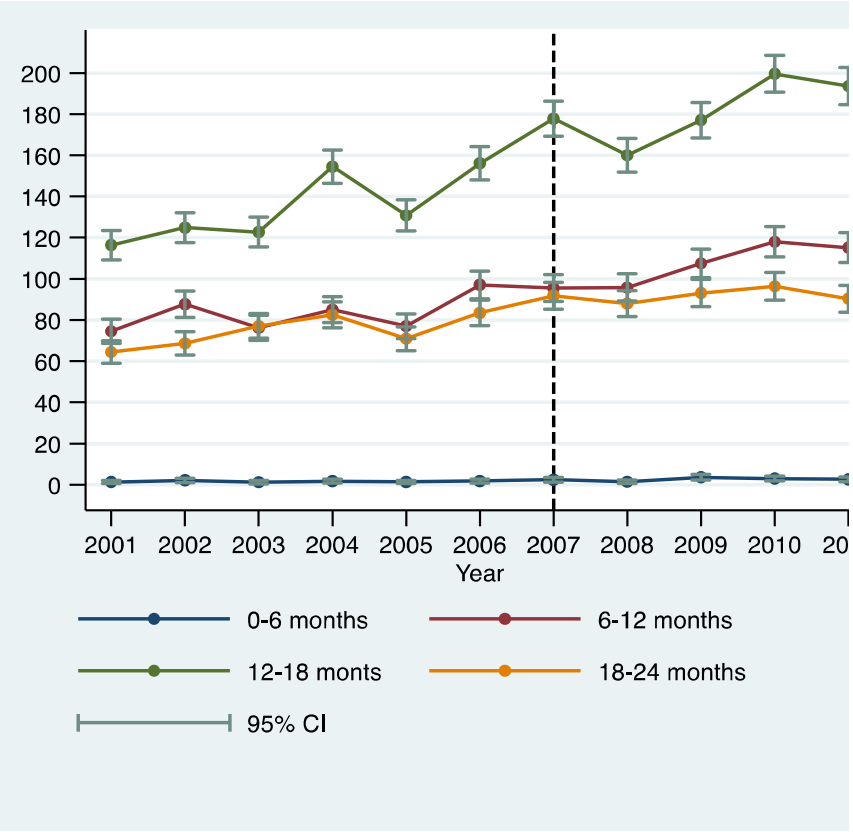
RESULTS

AGE- AND GENDER STRATIFIED

Boys and girls

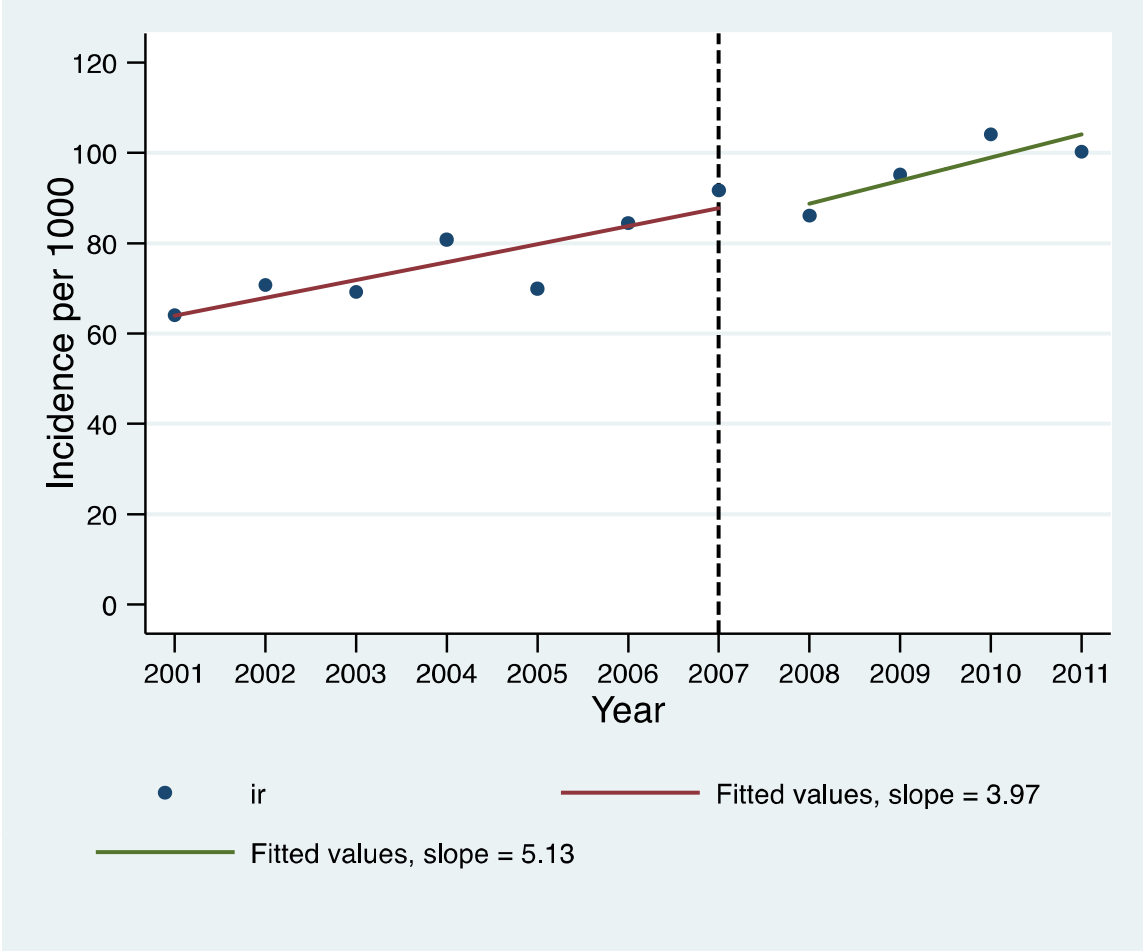


Age stratified



"BACKGROUND

TENDENCY"



DISCUSSION

Strengths

- Populations based → all children included
- Danish system → children from all social layers included

Limitations

- We don't know the effect of changes in other risk factors.
- No knowledge of the microbiology

DISCUSSION

NO DECREASE – WHY?

- Serotype replacement?
- Changes in other risk factors?
- Changes in indication?
- Increased medical care utilization?
- Increased pressure from parents?

- No effect of the vaccine?

CONCLUSION

- The implementation of PCV in the Danish childhood immunization program did not correlate with a lower rate of VT insertions
- Rates of VT insertions have increased
- There could be several reasons for the increase

Thank you for your attention

Christina Groth