

## Infectious Disease and Pathogenic Microorganisms in the Danish Child Care Environment



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### Aim



1. **Develop new methods** to measure bacteria and viral load in the environment
2. **Localise** hotspots in child care institutions
3. **Determine** whether disinfection of the toys can reduce infections among the the children

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## 2012 Prevalence study

Aim:  
To localise hotspots in 23 child care institutions



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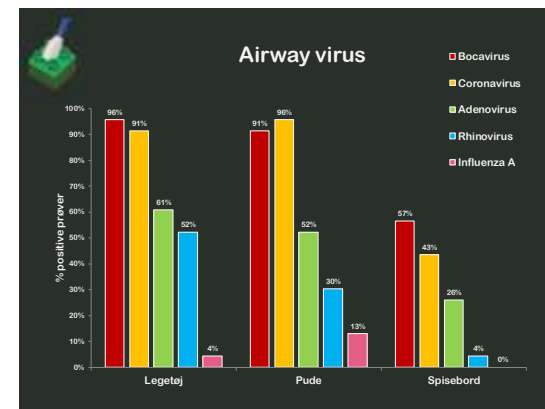
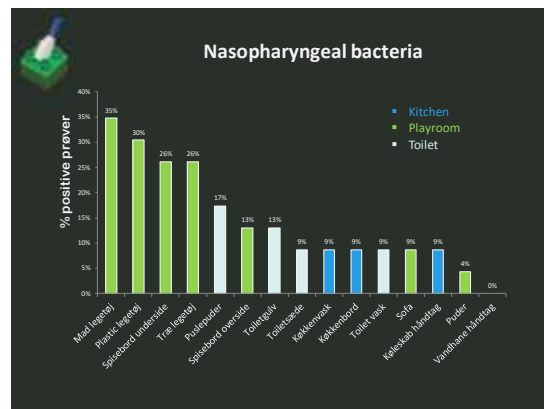
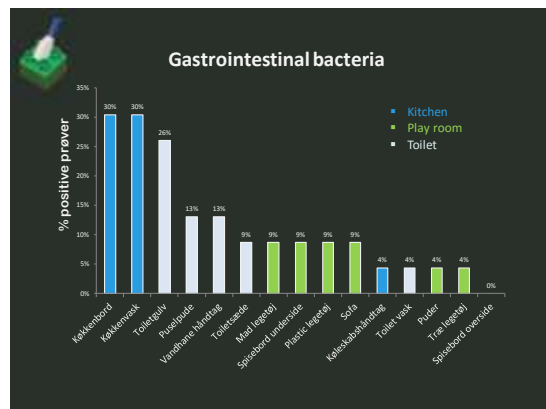
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## 2013 Intervention study

- Can disinfection of toys and  
linen reduce infections  
among the children?

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## Intervention design

Systematic cleaning and disinfection of the  
toys and linen every 2 weeks

- o Half of the toys were cleaned and disinfected every 2 weeks by a professional cleaning company

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## Measurements

12 nurseries (587 children)

- o Registration of number of days and cause of absence
- o Samples from 10 hotspots
  - Bacteria cultures
  - 16 different airway viruses



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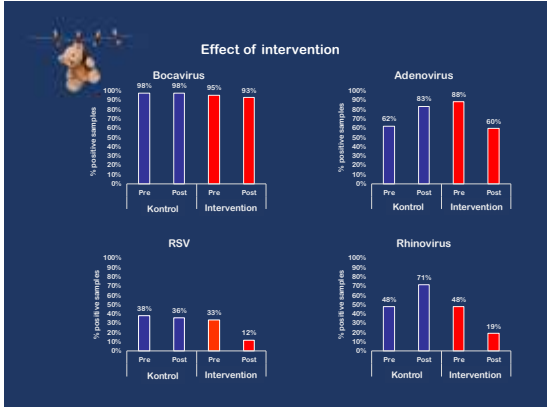
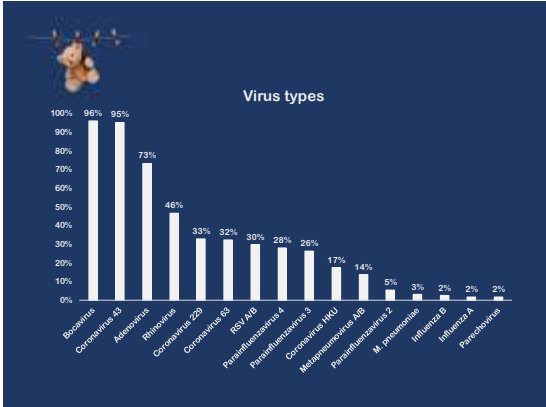
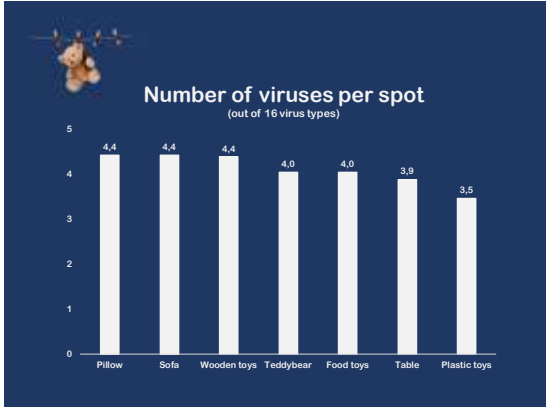
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### Sick days (dec-mar)

- Control group 5,1 days/child
  - Diarrhea 0,7 -
  - Airway infections 2,0 -
  - Other disease 2,4 -
- Intervention group: 5,2 days/child
  - Diarrhea 1,2 -
  - Airway infections 1,6 -
  - Other disease 2,4 -

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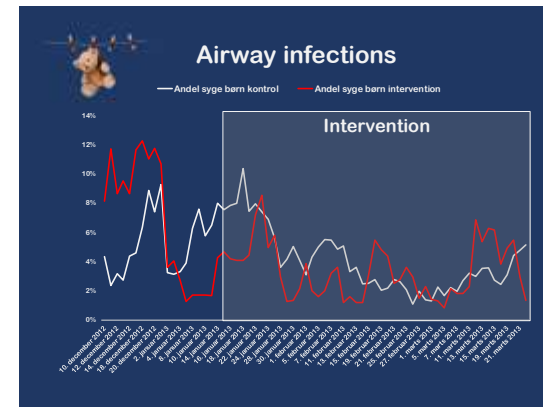
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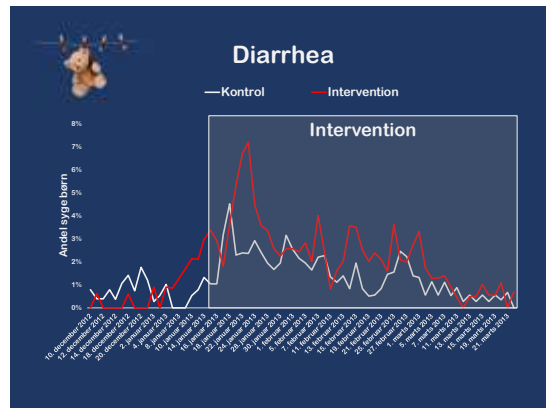
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## Conclusions

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## Conclusions

Washing and disinfection of the toys and linen every 2 weeks:

- Reduced the amount of adenovirus, rhinovirus og RSV and the amount of pathogenic bacteria
- Did not reduce total bacteria count, coronavirus or bocavirus amount
- Did not reduce the number of sick days among the nursery children

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### Other possible ways of preventing infections in day care



**Ventilation in day care centers and sick leave among nursery children**

Abstract: Several studies have reported poor indoor air quality (IAQ) in day care centers (DCCs), and other studies have shown that children attending them have an increased risk of respiratory and gastrointestinal infections. The aim of this study was to investigate whether there is an association between ventilation in DCCs and sick leave among nursery children. Data on child sick leave were...

**B. Kjaerik, E. Jensen, A. Jensen, T. Ibsen, E. Hey Engelund, S. Idrizi, A. Permin, S. Schultz, T. H. Andersen**

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### Tak

- Dr. Leif P. Andersen | Rigshospitalet
- Charlotte Foged | Rigshospitalet
- Eva Hey Engelund | DHI
- Anna Charlotte Schultz | DTU Fødevareinst.
- Resadije Idrizi | DTU Fødevareinst.
- Anders Permin | DHI & DTU Fødevareinst.
- All involved in the SiB project

Se mere på [www.sibprojekt.dk](http://www.sibprojekt.dk)



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