

# Interim Evaluation Sore throat component of the NZ Rheumatic Fever Prevention Programme

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*Dr. Susan Jack*

*Centre for International Health, Otago University & ESR*

**University of Otago, Wellington**

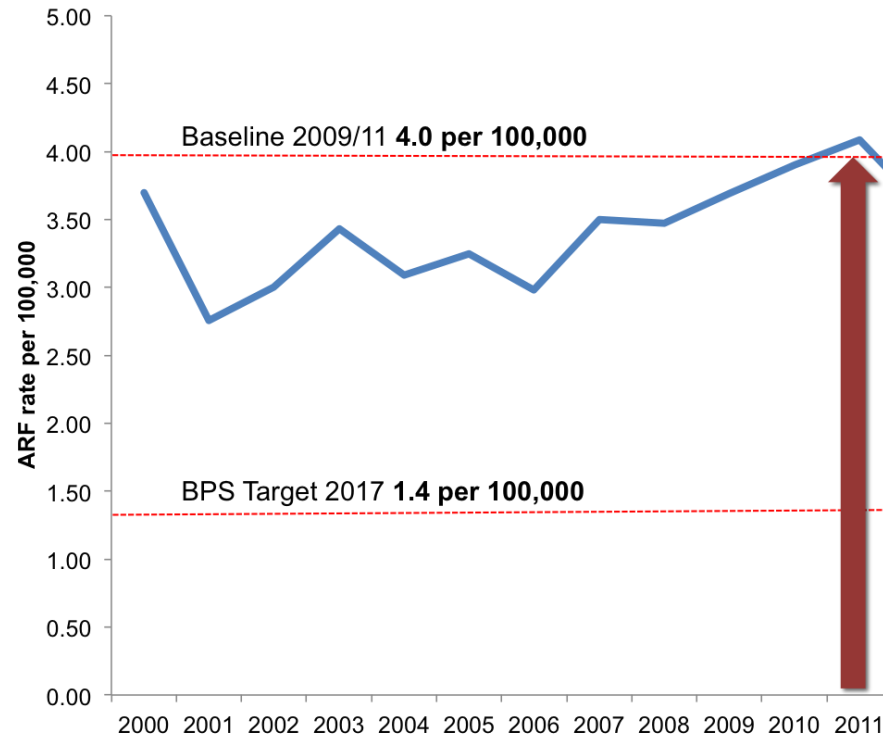
**Summer School Seminar**

# Outline of presentation

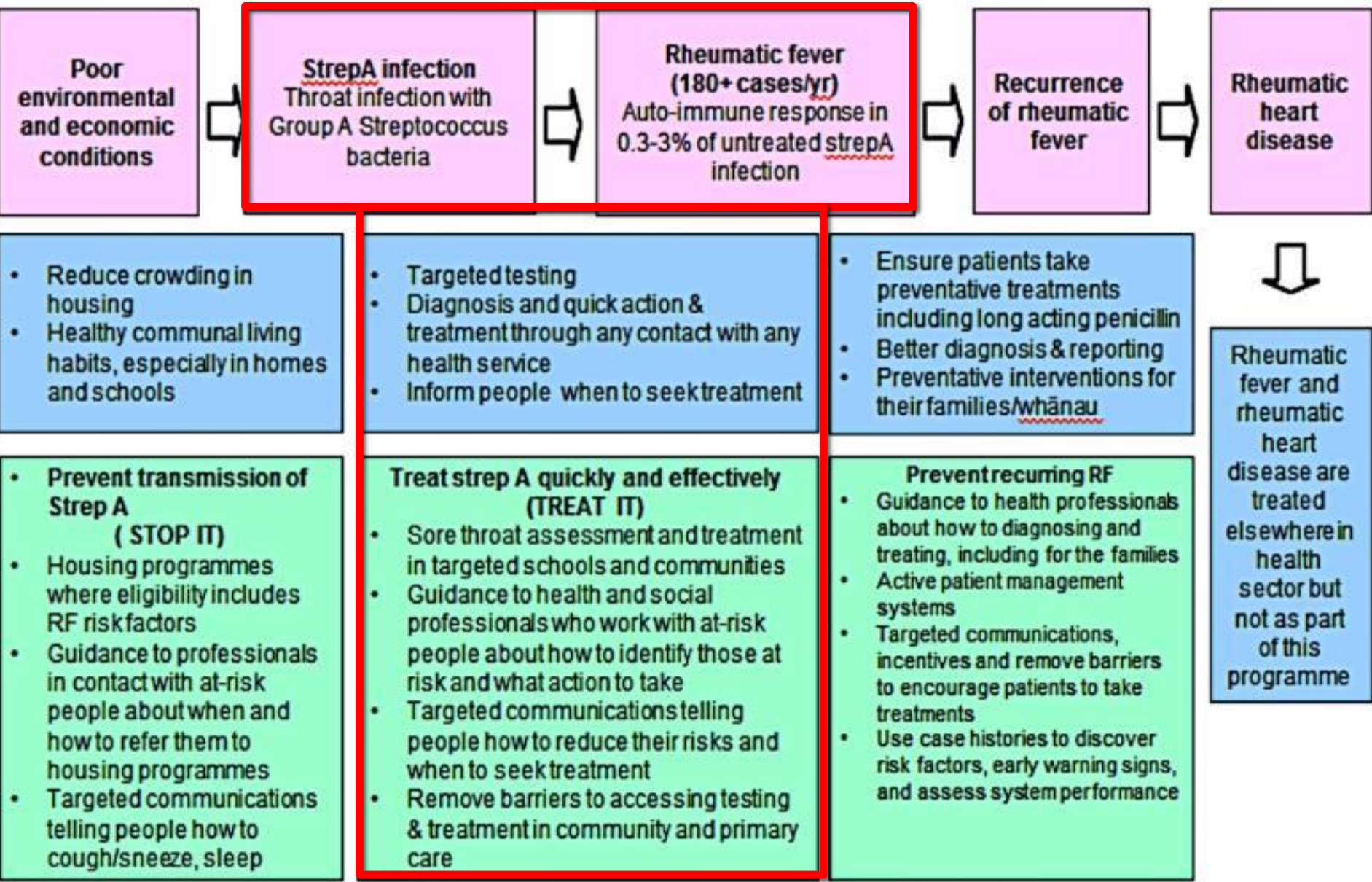
- Background to the NZ Rheumatic Fever Prevention Programme
- Epidemiological trends
- Effectiveness analysis of school-based sore throat component
- Laboratory analysis
- Discussion of key findings

# Background

- NZ Rheumatic Fever Prevention Programme (RFPP) set up in 2011, ARF incidence became a Better Public Service target in 2012
- 11 North Island District Health Boards (DHBs) with high risk populations in the RFPP with 10 implementing school-based sore throat management service
- Request for proposals for an evaluation of sore throat management component of the RFPP issued in November 2014 by MoH
- ESR/Otago University were selected, supported by broad multi-disciplinary team from NZ & Australia



# Programme logic for the RFPP





# 10 DHBs implementing the RFPP school-based service



DHB districts



# Interim Evaluation – what did we do?

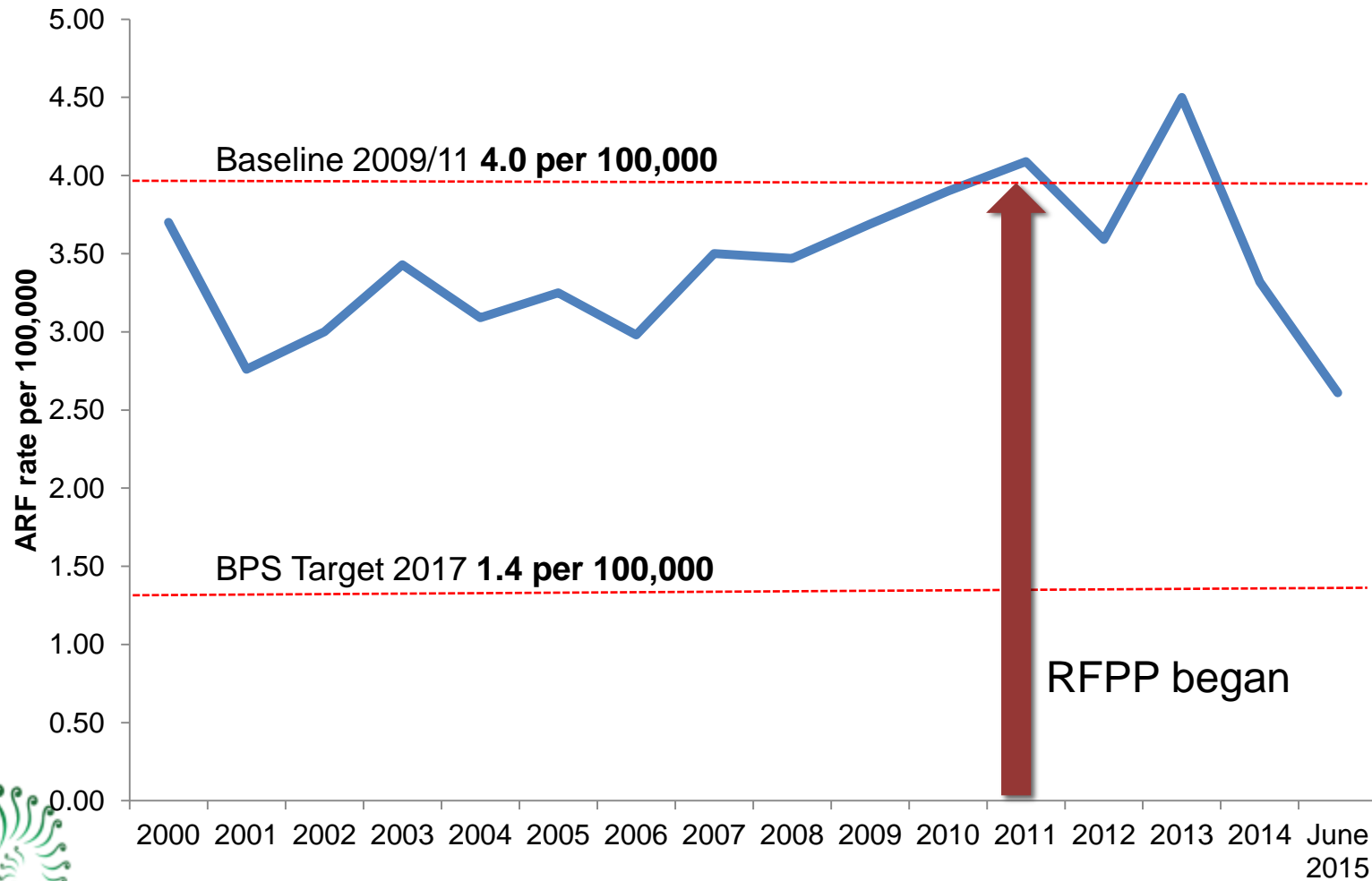
- **Descriptive epidemiological analysis (to June 2015)**
- **Effectiveness analysis (to 2014)**
- **Laboratory data analysis (to 2014)**
- Economic analysis
- Root cause analysis

# Implementation of school-based sore throat management service of RFPP by DHB and time

DHB	2011 Jul-Dec	2012 Jan-June	2012 Jul-Dec	2013 Jan-June	2013 Jul-Dec	2014 Jan-June	2014 Jul-Dec
Northland							
Hawkes Bay							
Capital & Coast							
Counties Manukau							
Bay of Plenty							
Waikato							
Tairāwhiti							
Lakes							
Auckland							
Waitemata							

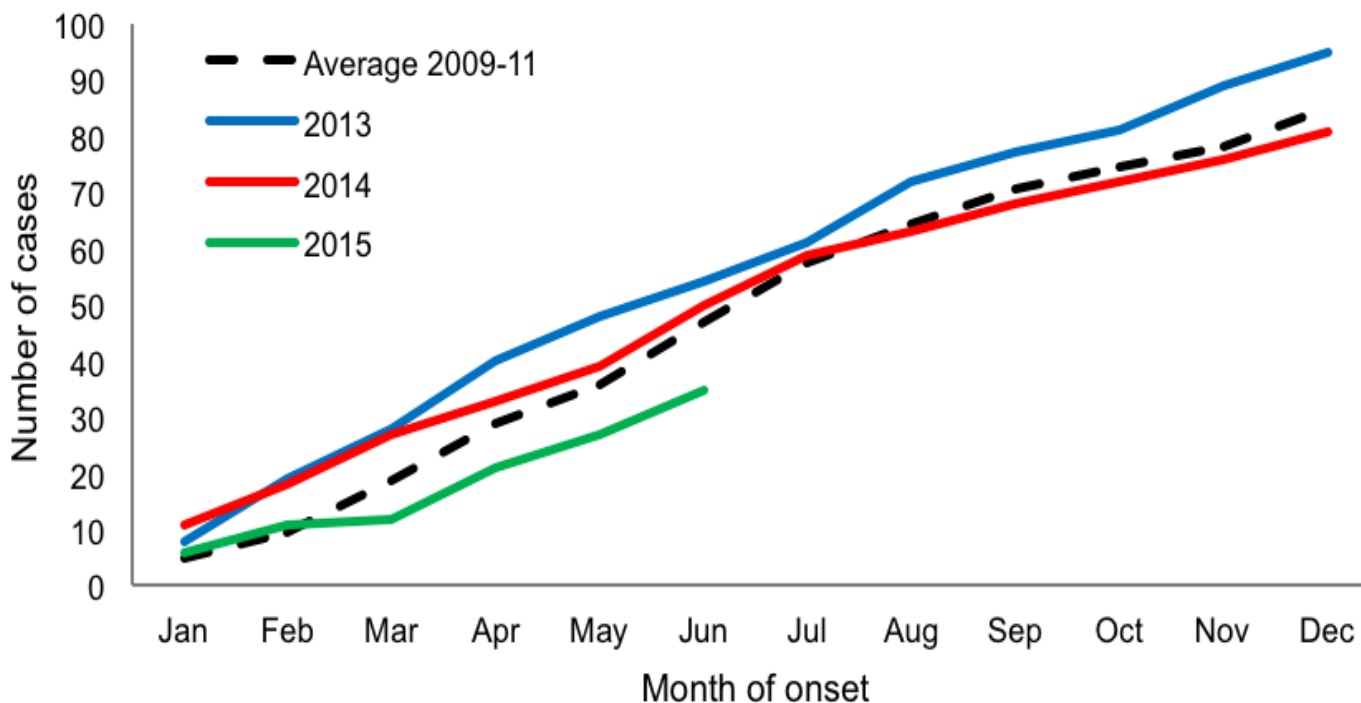


# Total first episode ARF hospitalisation rates by year

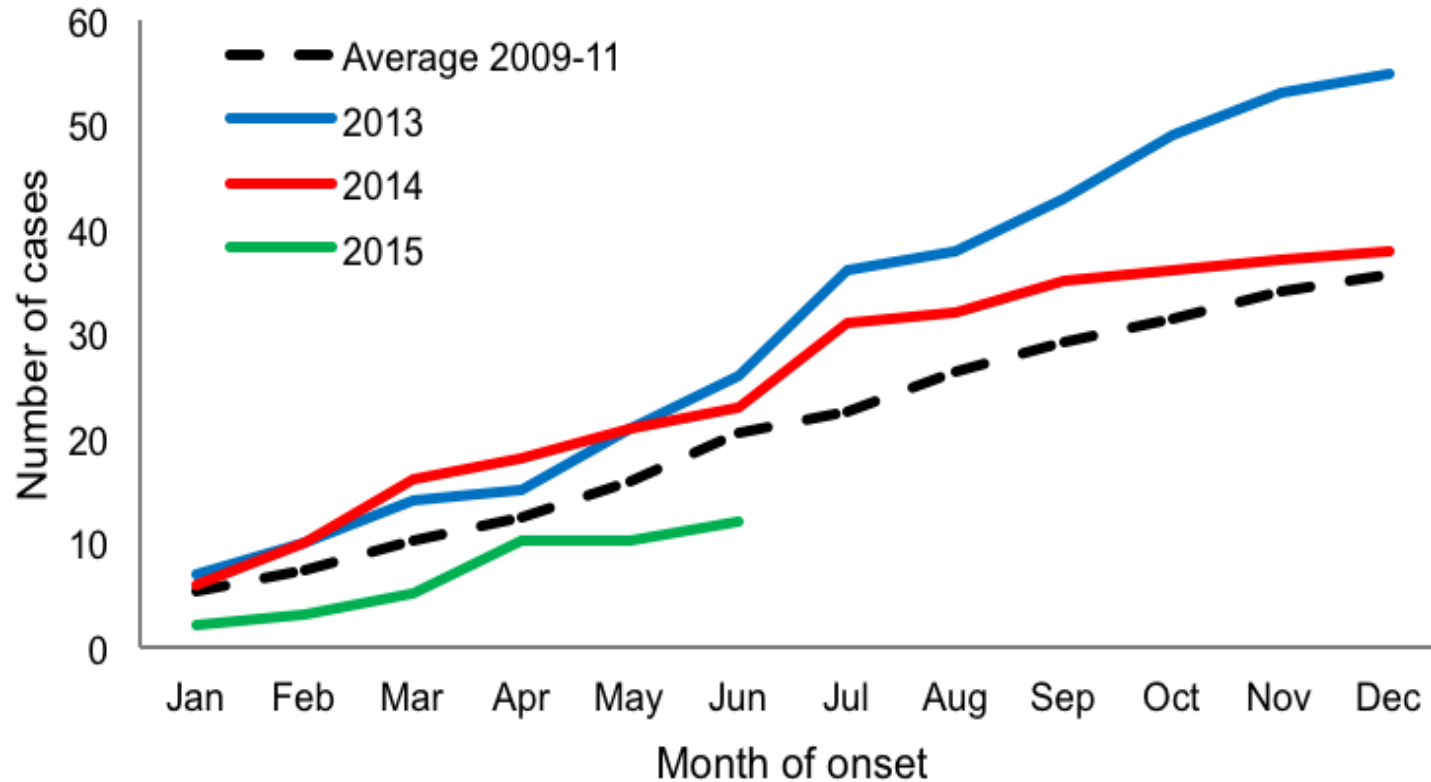




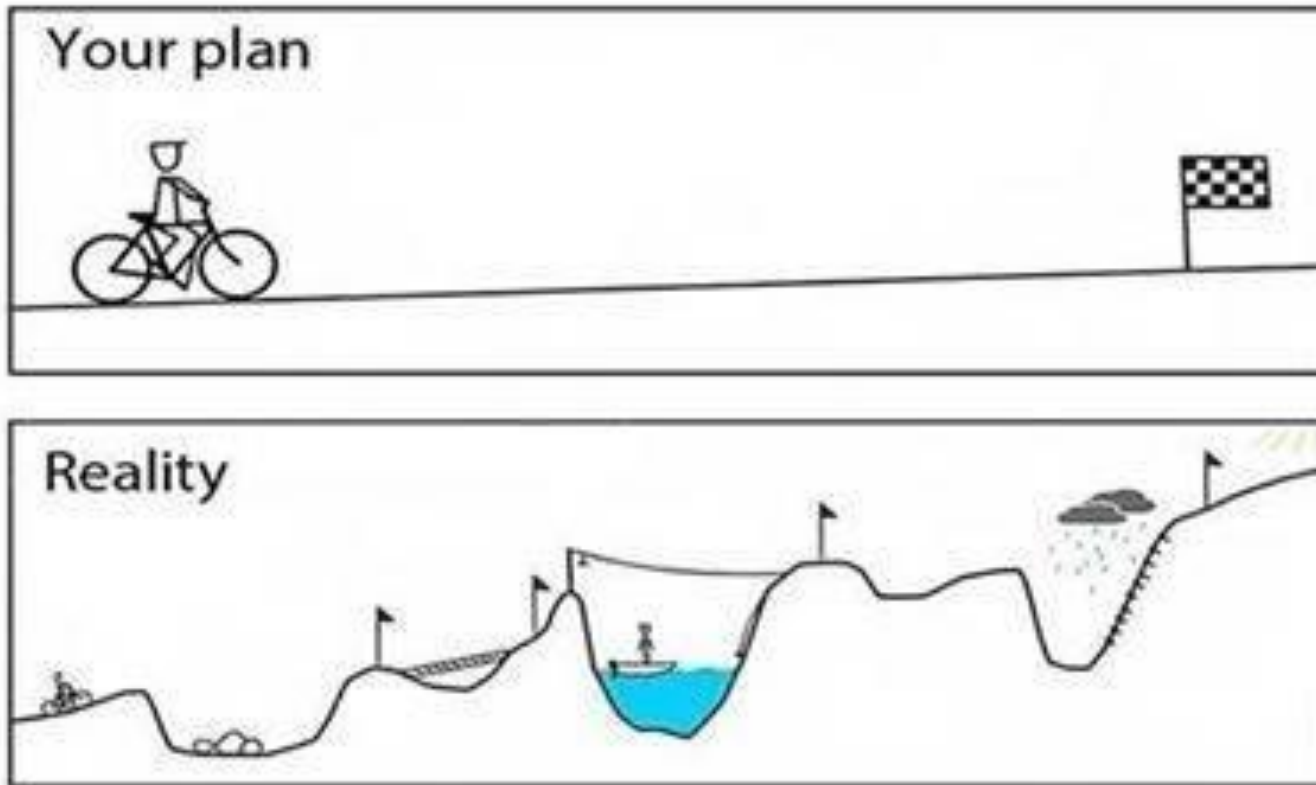
# Cumulative incidence ARF notifications in children 5–12 years, in the 10 RFPP DHBs implementing a school-based service



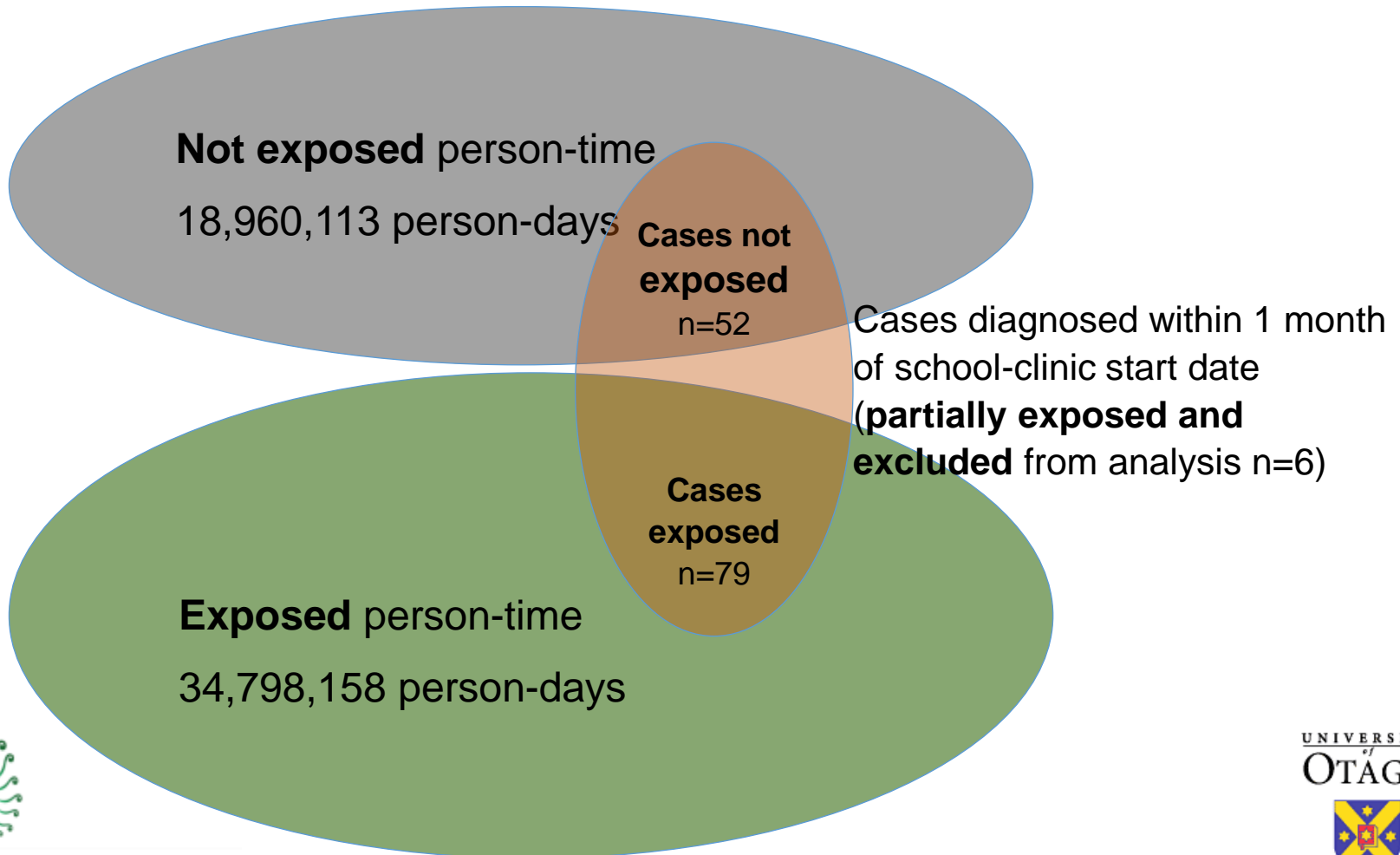
# Cumulative incidence of ARF notifications in children 13–19 years for 10 RFPP DHBs



# Effectiveness analysis



# Cohort design: not-exposed and exposed analysis



# Effectiveness analysis findings

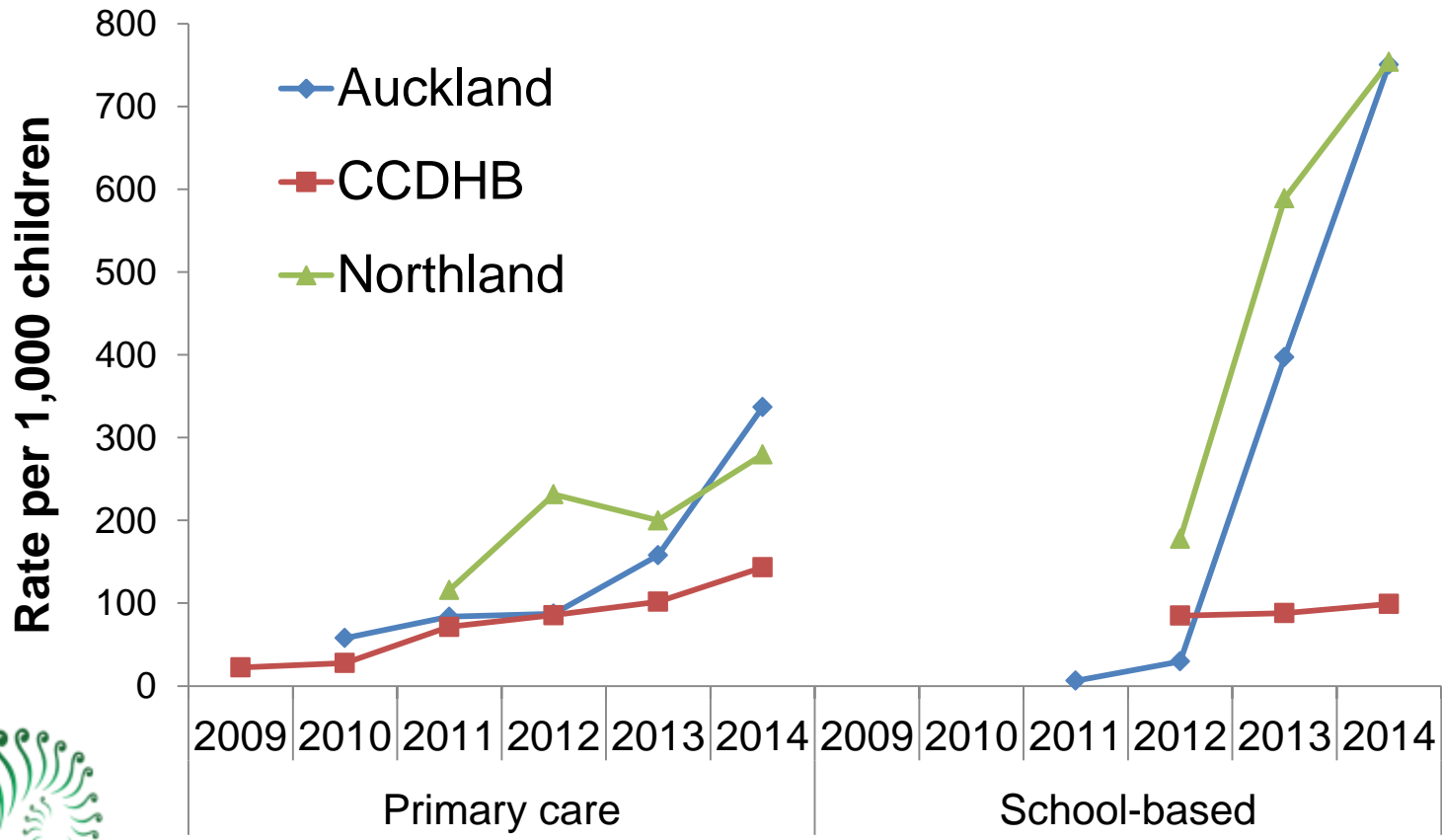
Scenario	Number of cases exposed/ person days exposed	Number of cases non-exposed/ person days not exposed	ARF decline (proportion)	Lower confidence limit	Upper confidence limit	Statistical Significance
<b>10 DHBs</b> Schools with a sore throat service	79/ 34,798,158	52/ 18,960,113	<b>0.17</b>	-0.17	0.42	No
<b>CMDHB</b> Schools with a sore throat service	33/ 15,273,980	31/ 9,945,963	<b>0.31</b>	-0.13	0.58	No



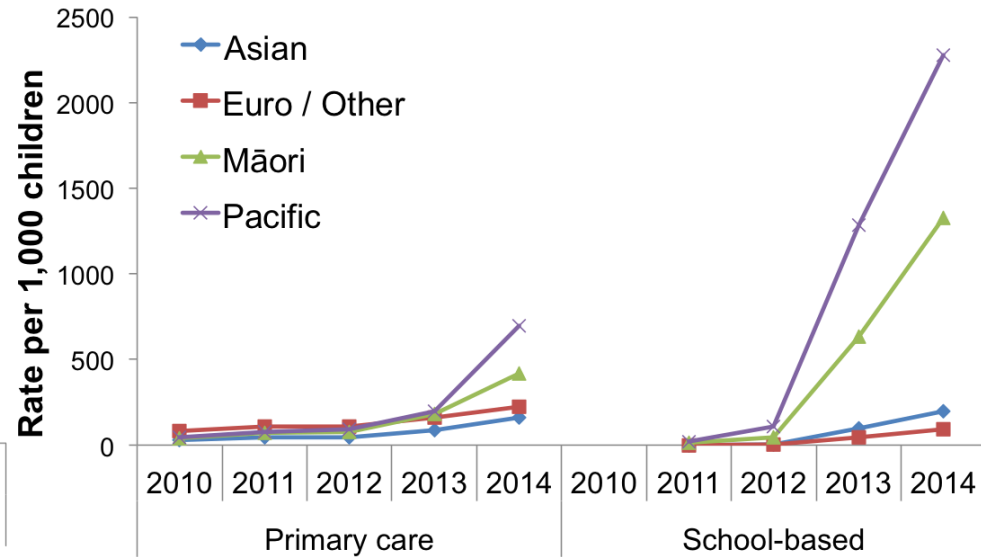
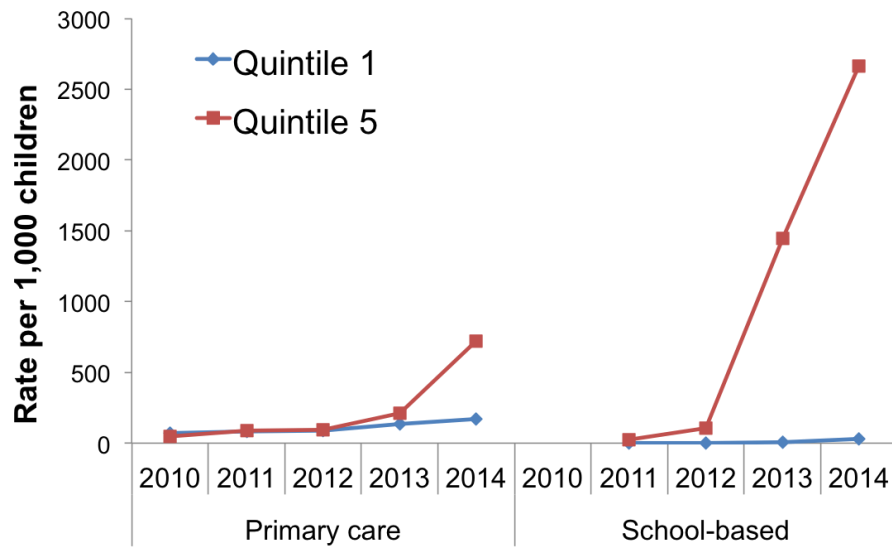
# Laboratory analysis



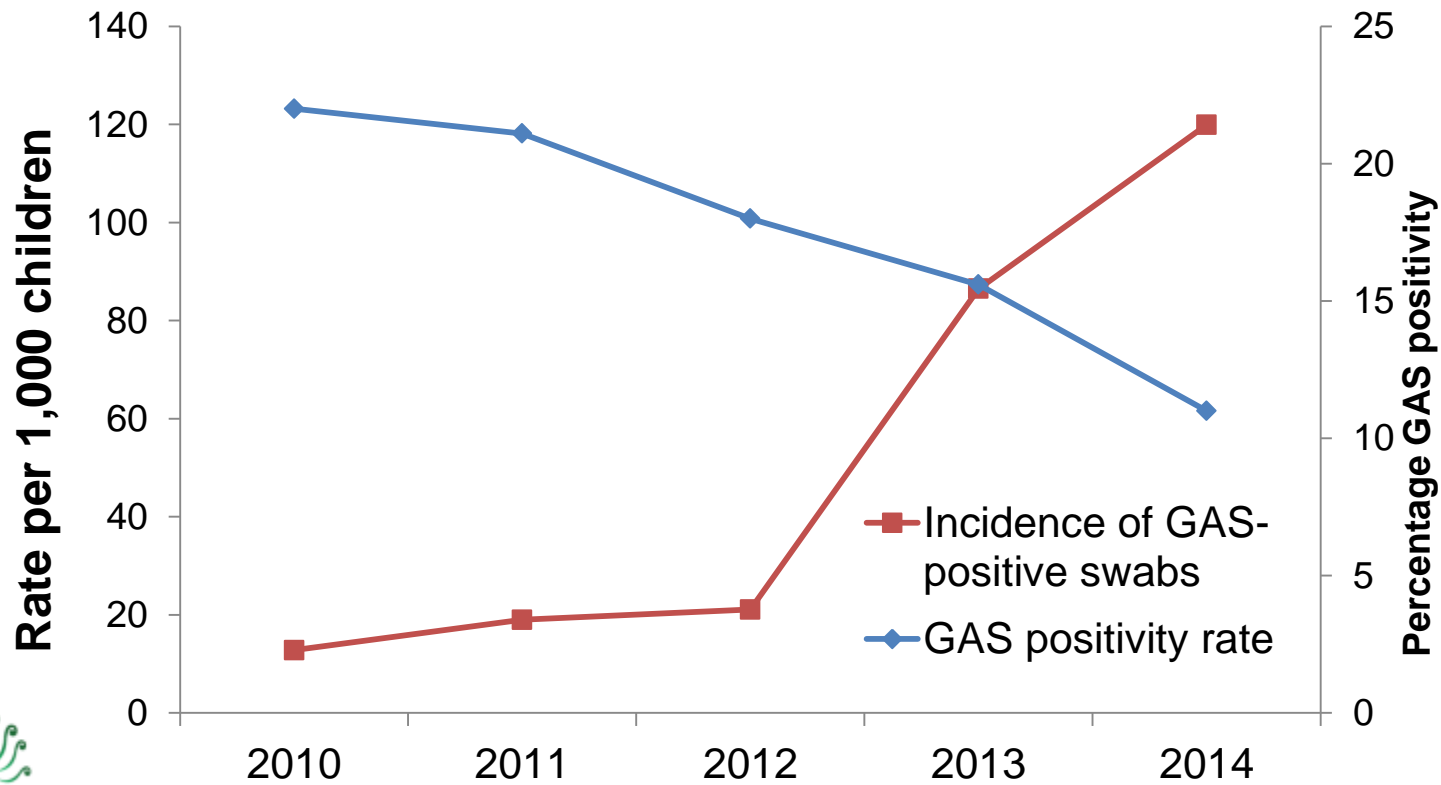
# Annual rates of throat swabbing in children aged 5–14 years in Northland, Auckland, and CCDHB, 2009–2014, stratified by source



# Annual rates of throat swabbing in children aged 5–14 years in Auckland region, stratified by source, NZDep quintile, and ethnicity 2010–14



# Annual rates of GAS positive throat swabs and GAS positivity rate from throat swabs from children aged 5-14 years in Auckland region, 2010-14



# Limitations

- Monitoring not standardised and reporting on deliverables and indicators was inadequate until recently.
- RFPP implementation varied considerably across DHB regions - coverage and management, frequency of throat swabbing offered, support for adherence to antimicrobial treatment, management of skin infections
- If we see a significant & sustained decline in ARF incidence it will be difficult to be certain what has caused this:
  - The RFPP includes multiple components
  - We do not have a large comparison population who are similar to the intervention group
  - We are using observation data



# Looking ahead

- A final evaluation incorporating a further year of data (2015) and using individual level data could be considered.
- Further assessment of the RFPP could be strengthened with additional data not available for this interim evaluation e.g.
  - laboratory administrative marker for throat swabs and a record of who attends rapid response clinics
  - recording NHIs of all children consenting to be part of school-based clinics
  - good quality monitoring data for both school-based and rapid response clinics

# Acknowledgements

## Interim Evaluation team:

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## Interim Evaluation advisors:

Prof Jonathan Carapetis, Assoc. Prof Andrew Steer, Prof Paul Scuffham, Dr. Catherine Jackson, Dr. Matire Harwood, Dr. Dianne Sika-Paotonu, Prof Murray Tilyard

<http://www.health.govt.nz/publication/interim-evaluation-sore-throat-management-component-new-zealand-rheumatic-fever-prevention-programme>