

IMPACT OF PANDEMIC INFLUENZA A (H1N1) 09 IN NZ

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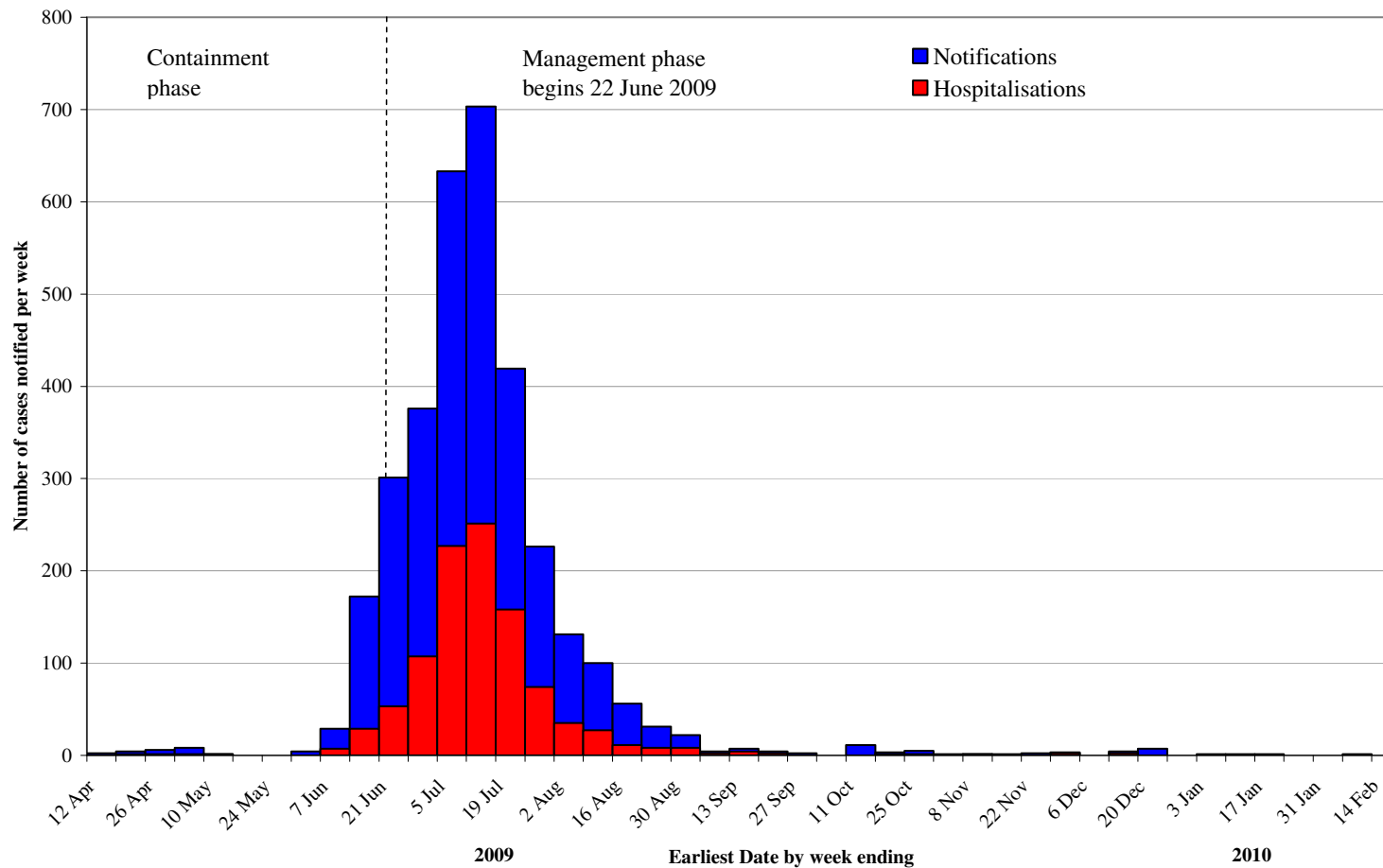
Outline

- Health impact
- Positive impacts
- Negative impacts



Epidemic curve P(H1N1)09

(3,281 notifications; 1 122 hospitalisations (1 19 in ICU's); 35 deaths)



New Zealand



Study area

GP clinics

Study population
(Registered/enrolled population)

Maori

Pacific

Other

1-4 years

5-19

20-39

40-59

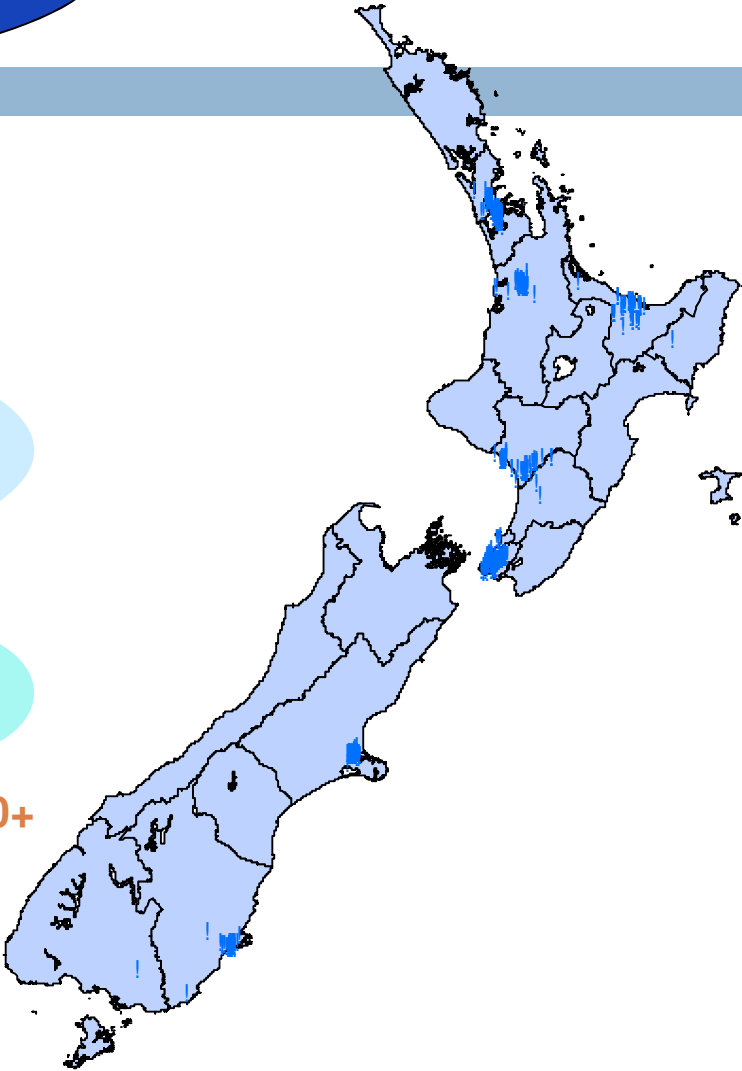
60+

Design prevalence: 20%
Confidence: 95%
Margin error: +/- 10%

Sample (1500)

Study period

(Nov09-Mar10)



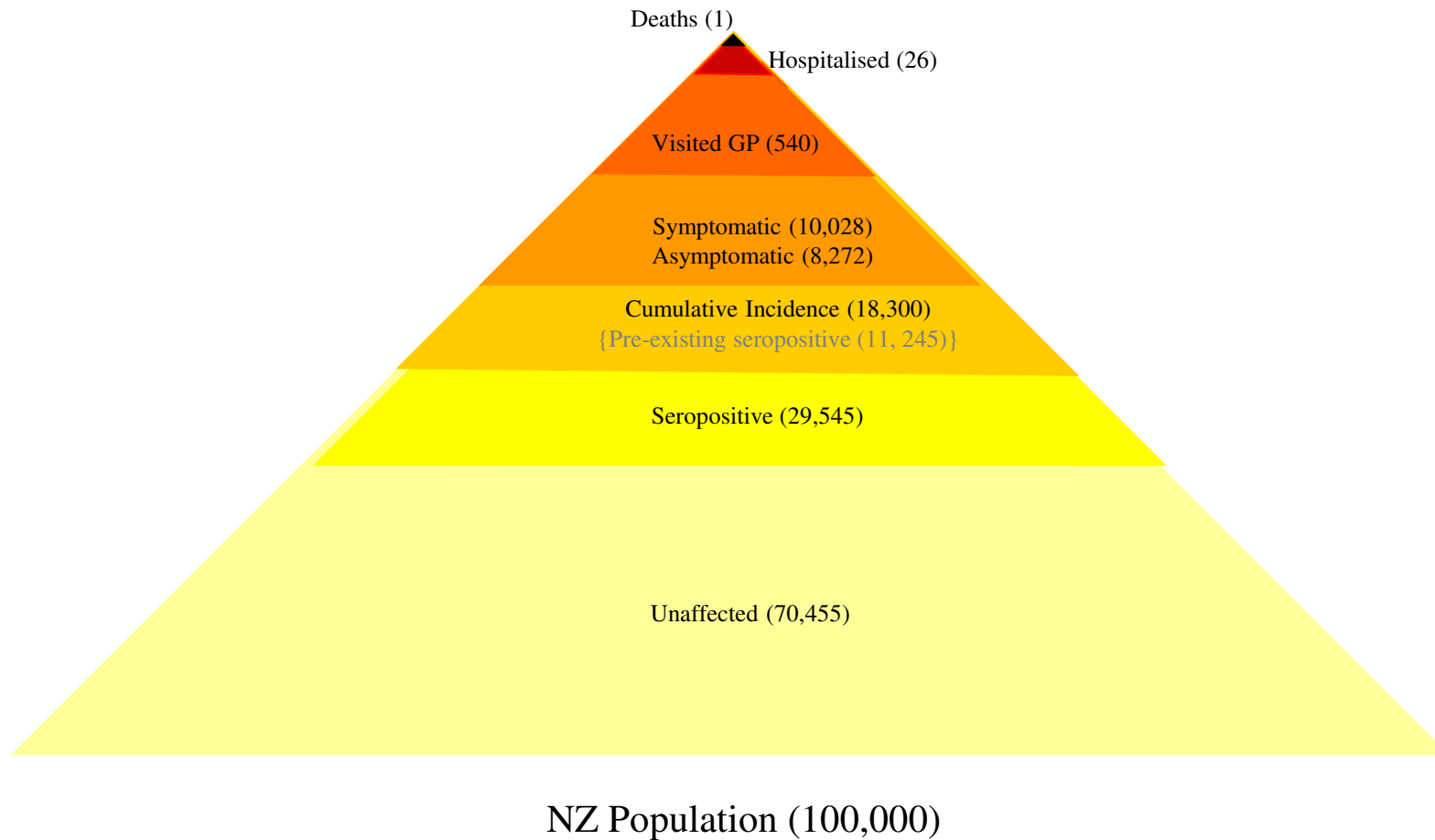
Determinants of immunity



- Host
 - ▣ age, ethnicity, gender, chronic illness
- Environment
 - ▣ home/school/work, household size, condition, NZDep, tenure
- Behaviour
 - ▣ smoking, precautions
- Health Service interventions
 - ▣ vaccination, tamiflu uptake, seeking medical care

H1N1 Disease pyramid 2009

Estimates from Notifications and Sero-prevalence study
(Cases per 100,000 of Total Population)



PH1N1(09) Estimates



- Cumulative Incidence (estimate) = 781,867 (18.3% of NZ population)
 - Asymptomatics = 353,404 (45.2%)
 - Symptomatics = 428,463 (54.8%)

- 49 deaths (revised)
 - CFR 13.8 per 100,000 (95%CI: 10.5 - 17.1) (symptomatic cases only)
 - CFR 6.3 per 100,000 (95%CI: 5.0 - 7.6) (all seropositives)

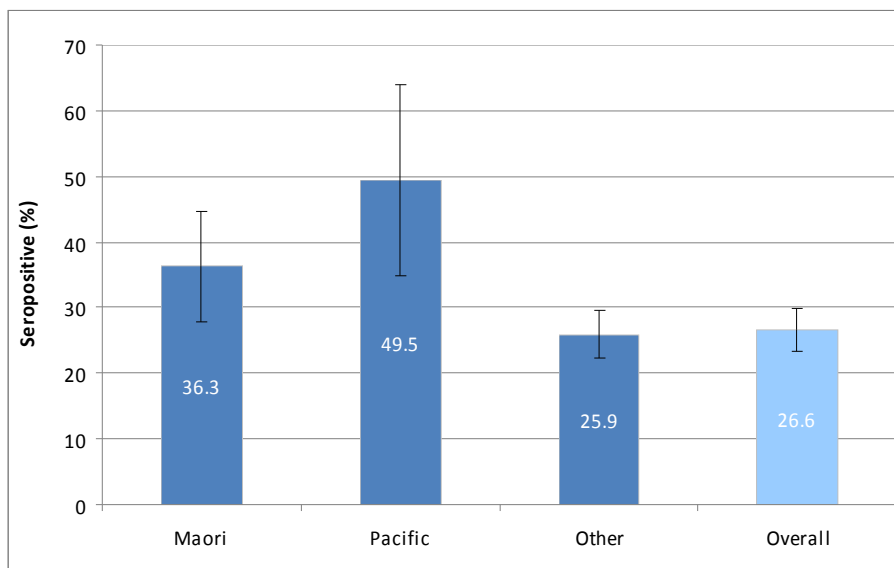
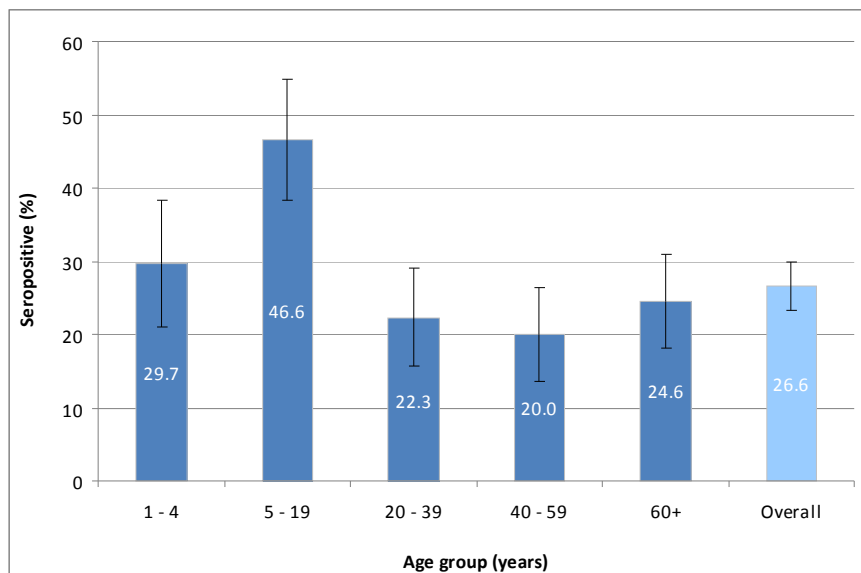
- 1122 hospital admissions
 - Hospitalisation ratio 262 per 100,000 (symptomatic cases only)
 - Hospitalisation ratio 144 per 100,000 (all seropositives)

Main findings

- The Pandemic A(H1N1) virus was of low virulence but spread rapidly in a short time frame and resulted in high levels of immunity
- Almost 10% of NZ'ers had symptomatic infection with the pandemic virus
- 29.5% of the NZ'ers (1.3 million) showed immunity to 2009 H1N1 of which 18.3% were new infections
- 45.2% of seropositive individuals were asymptomatic
- Highest seroprevalence was in Pacific Peoples, the Maori and in school-age children
- Older people had a high pre-existing immunity which protected them against infection
- Being a healthcare worker did not appear to increase the likelihood of infection compared to the general population

■ *PLoS ONE 5(10): e13211. doi:10.1371/journal.pone.0013211*

Immunity by age & ethnic groups



- Highest in age group 5 to 19
- Highest in Pacific people
- Overall : 29.5% (1.26 million) standardised at NZ population

POSITIVE IMPACTS



- Possible overall reduction in deaths due to seasonal influenza among elderly
- Enhanced action using the Coordinated Incident Management System (CIMS) approach with centralized multi-sector coordination and health lead
- Laboratory capacity challenged (especially at ESR where new knowledge and experience was gained)
- Expert committees established (PITAG, PIMRC)
- Research (seroprevalence, HRC studies)

POSITIVE IMPACTS contd..



- Improved communication strategies at both national and local levels
- Enhanced emergency preparedness in critical care
- Fully functional NHCC with central government support
- CD took centre stage with political backing for response planning
- Improved action plans for all CD emergencies
- Revised NZPAP with 3 scenarios (mild, moderate, severe)

NEGATIVE IMPACTS

- Pressure on hospitals especially ICU's
 - ▣ Peaked at 25% occupancy of all ICU beds
 - ▣ Higher mean length of stay at 3 days
- Some PHC services stretched (mainly in urban areas)
- Business-as-usual minimally affected
- School/classroom closures
- Economic impact (?)
 - *NZ Treasury not too concerned*
 - *HPA study: van Hoek et al. March 2011. PLoS.ONE 6(3):e17030*

THANK YOU

