

# CIC 2014 CCI

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Canadian Immunization Conference  
Conférence canadienne sur l'immunisation

2-year old immunization coverage in  
Fraser Health, British Columbia:  
beyond up-to-date status

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# Disclosure Statement



- I have no affiliation (financial or otherwise) with a pharmaceutical, medical device or communications organization.

# Background

- Fraser Health – large health authority with mixed model of immunization delivery
- Up-to-date coverage: standardized way of measuring immunization rates
- Fraser Health's UTD coverage at 2 years:
  - typically 65-70%
  - Without 18 month booster, 75-78%

# Methods: data sources

- BC iPHIS birth cohorts 2008-2010
  - 54,390 children
  - all antigens and dates of receipt up to 2 years of age
  - DOB
  - Health unit
  - Refusal indicators (additional 2012 summary data)

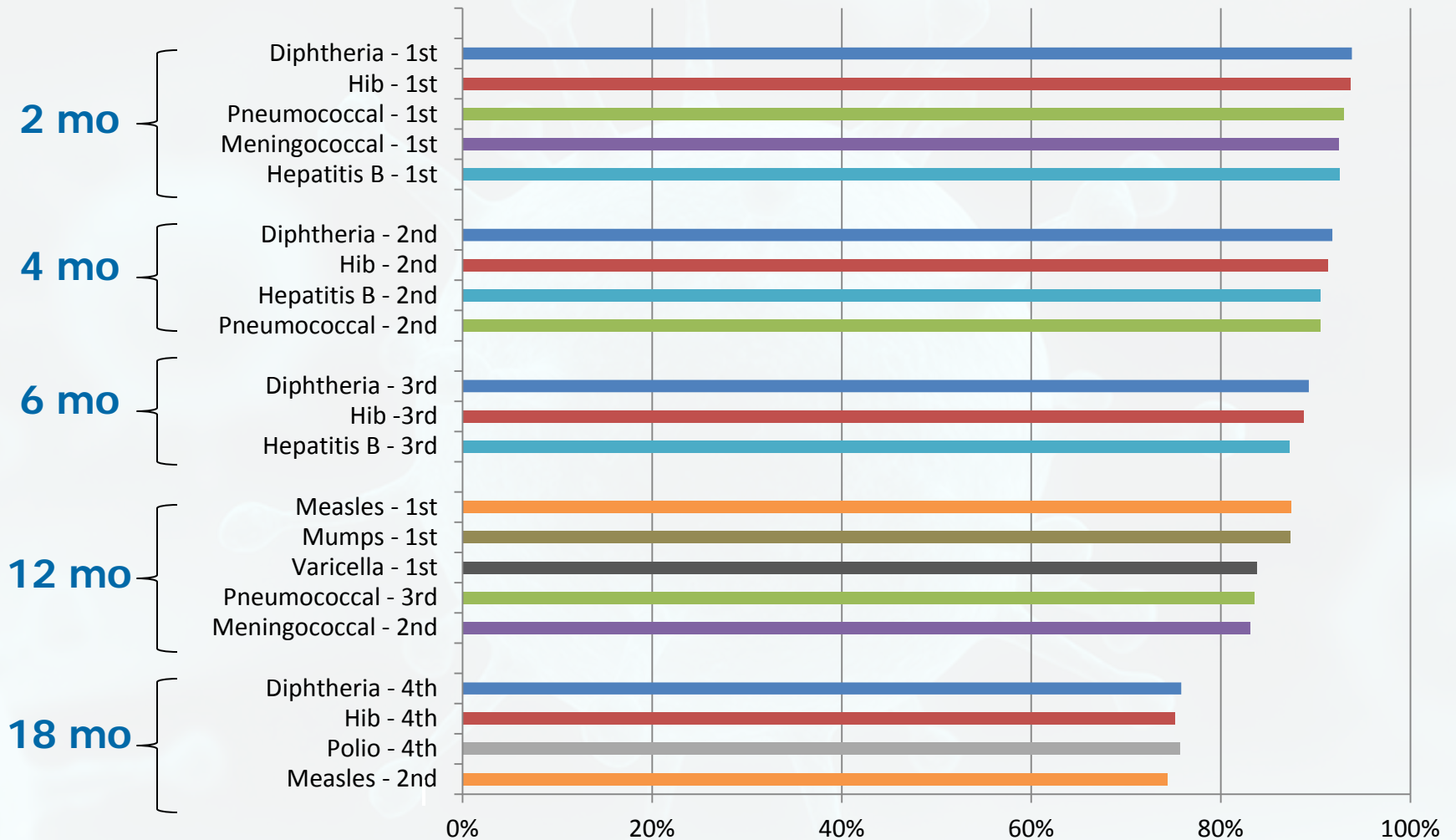
# Methods: descriptive analysis

- Classification of doses: timeliness and validity
- Examination of drop-off, selective dosing, and non-receipt
- Examination of lateness and intervals
- Examination of number of visits



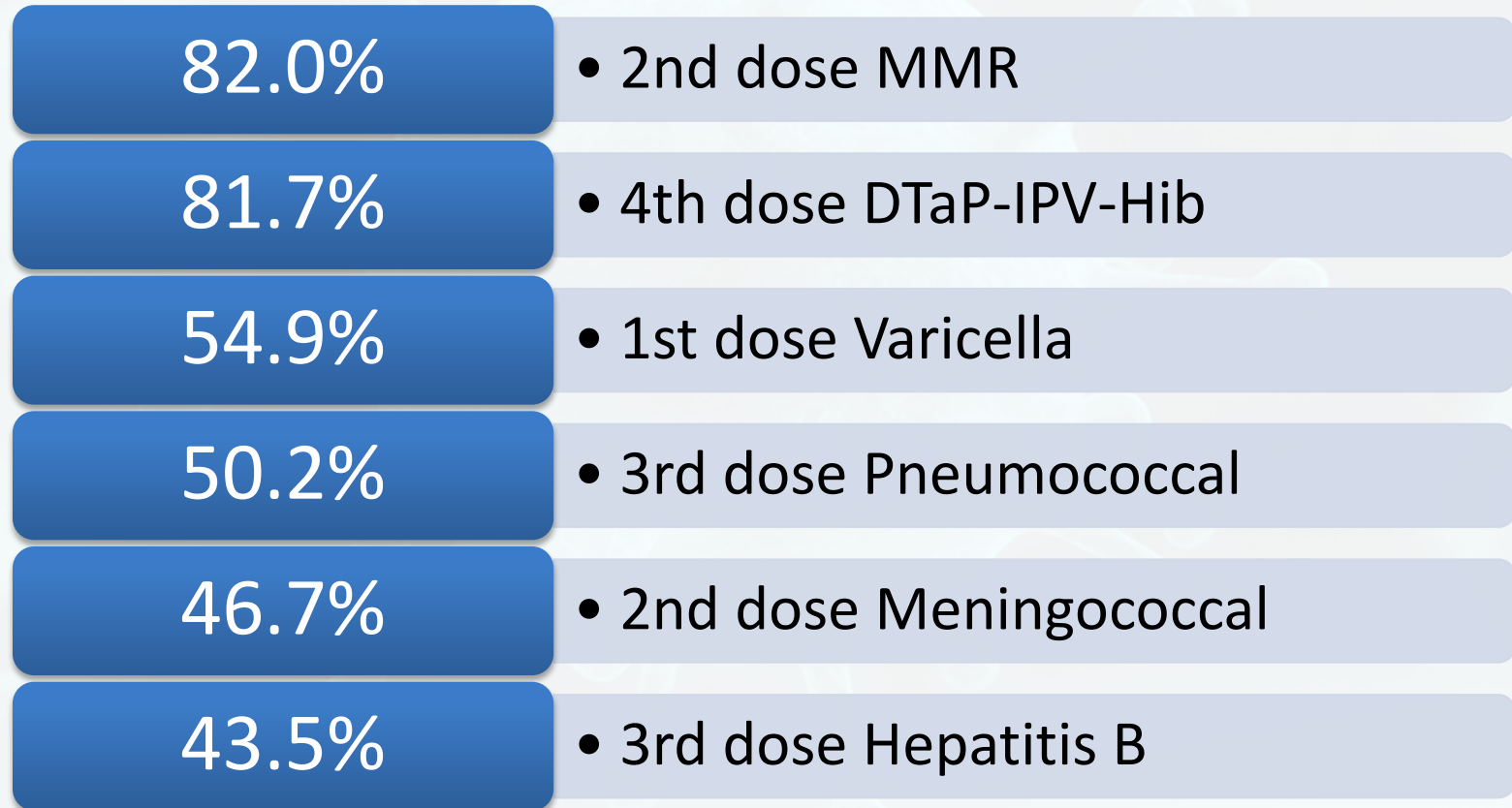
# **OVERALL VACCINE RECEIPT**

# Percentage of children receiving selected antigens, FHA, 2008-2010\*



\*for second dose of MMR, only 2008-2009 used.

# If a child is incomplete – what are they most likely to be missing?



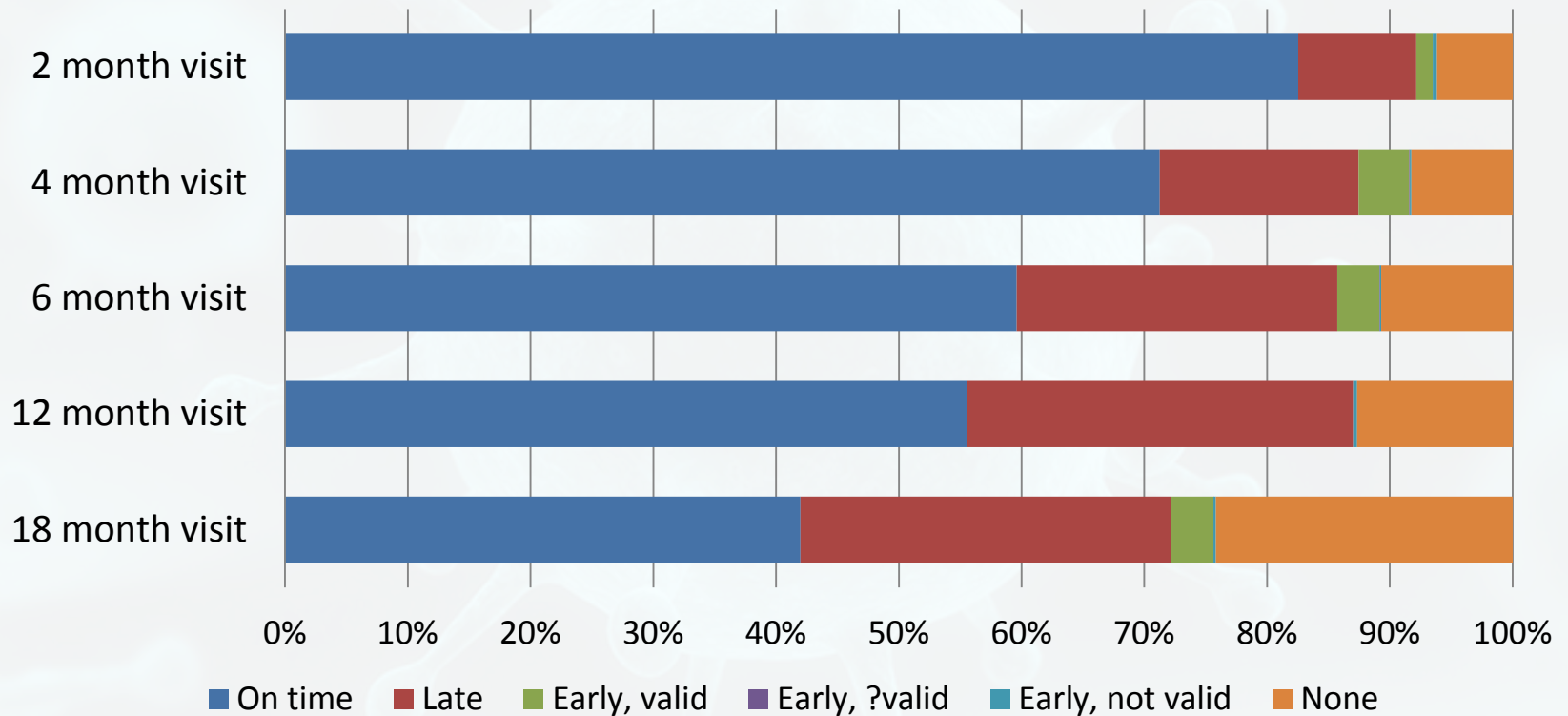




# **VACCINE TIMELINESS**



# Timeliness at immunization visits before 2 years of age using sentinel antigens, FH 2008-2010



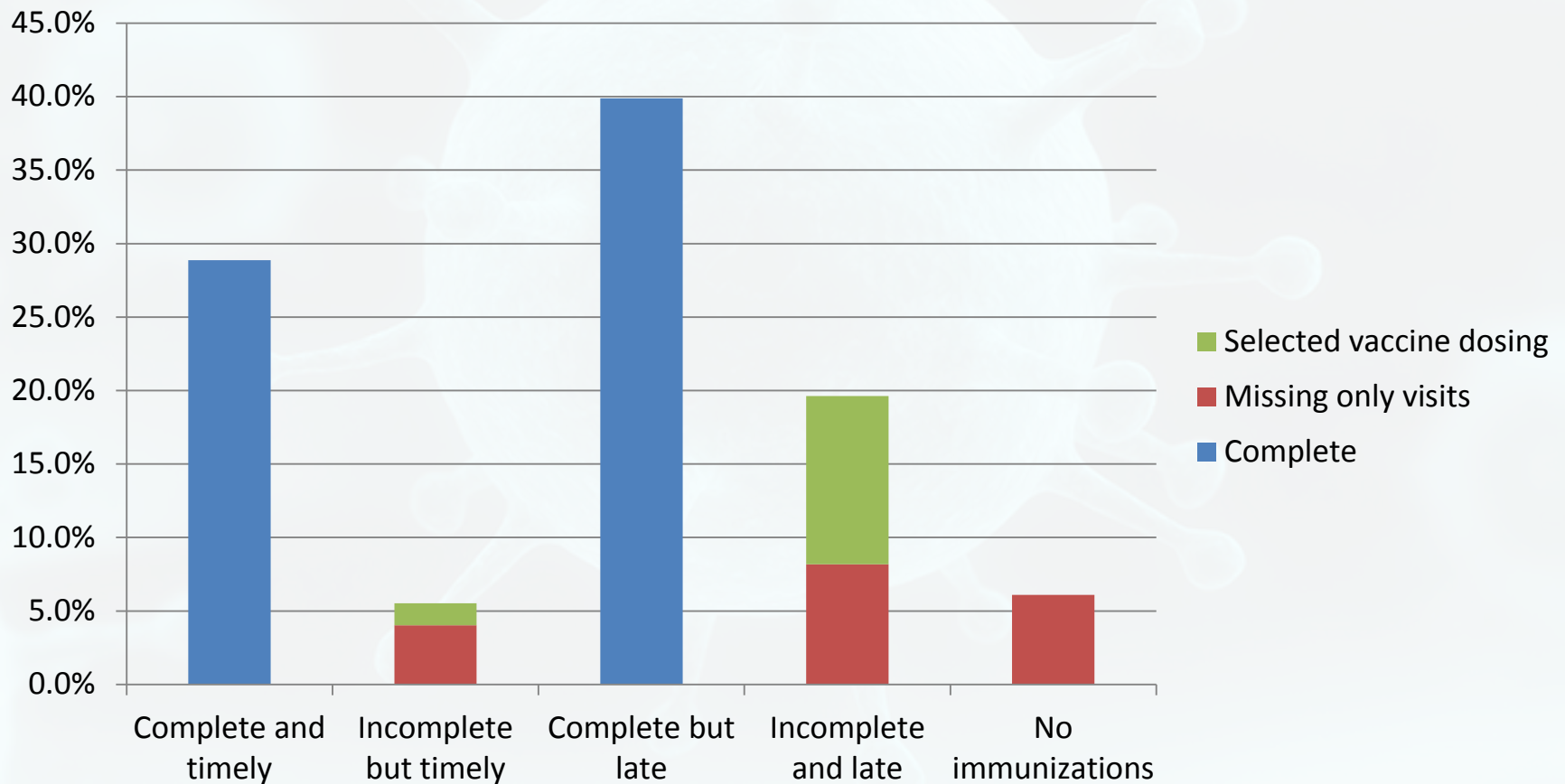
\*Diphtheria used for all visits except 12 month (mumps)



# Selective dosing and refusals

# Completion and timeliness subanalyses

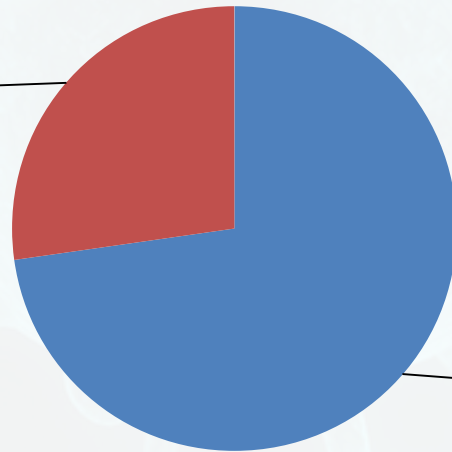
Proportion of FHA children complete and/or on-time for under 2 immunizations, 2008-2010



# Refusal data

- 2010 only

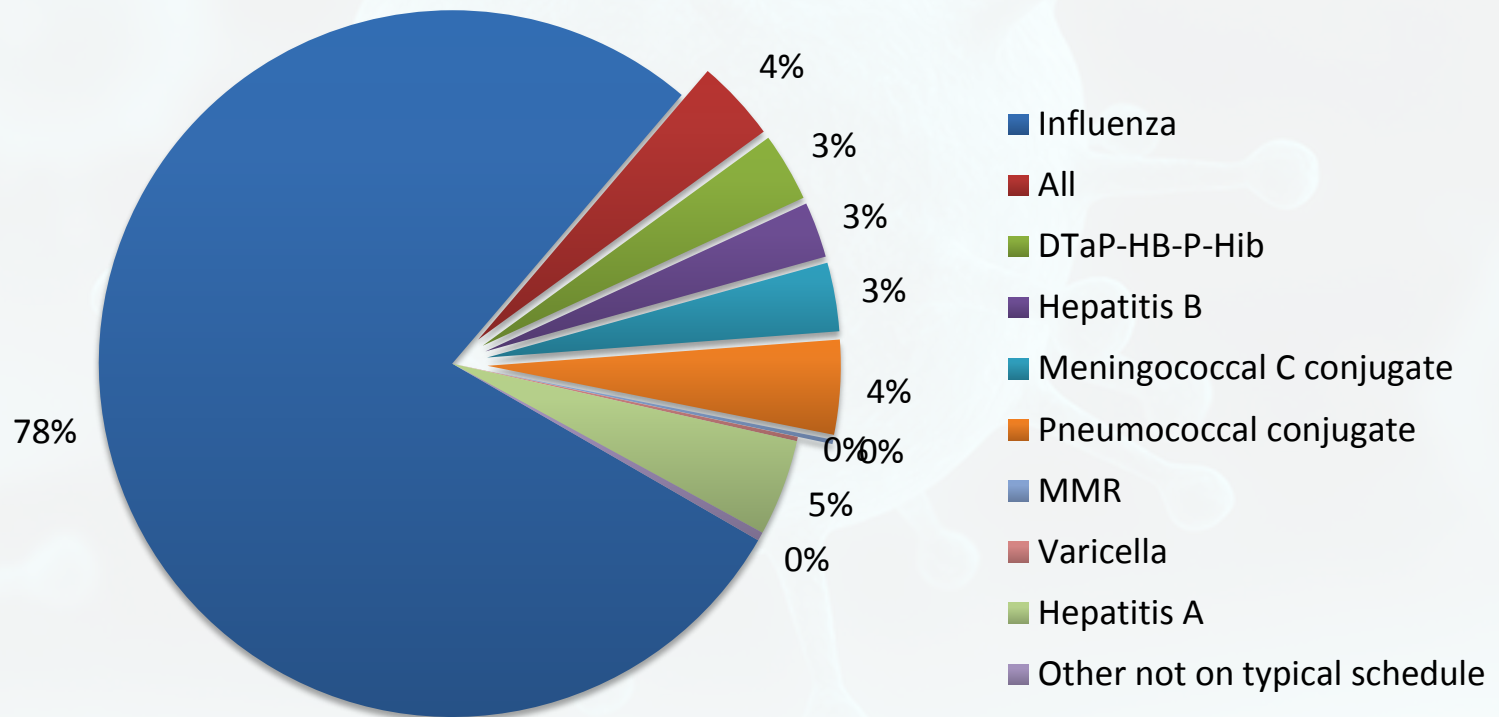
27% - at  
least one  
refusal on  
file

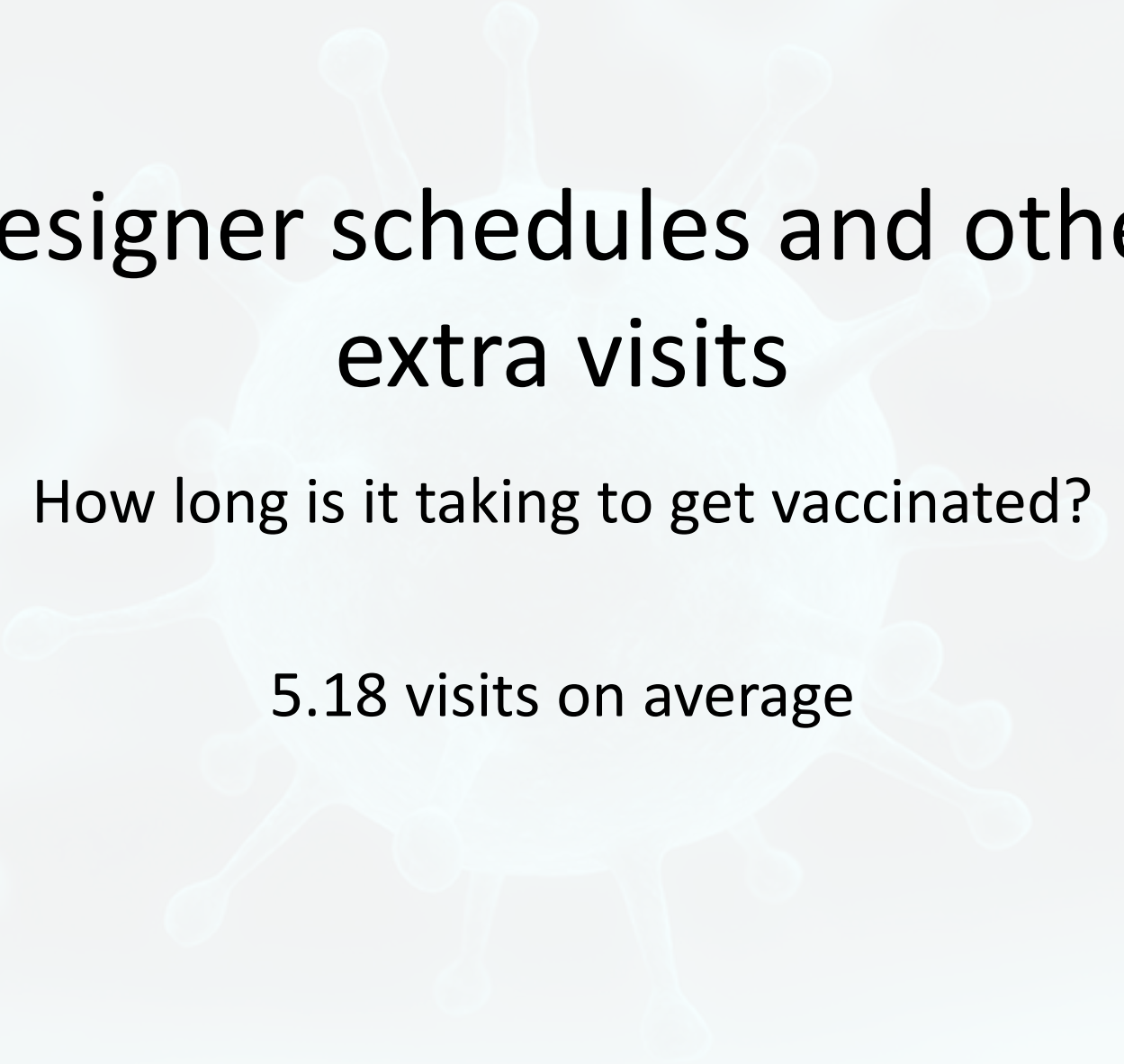


73% - no  
refusals on  
file

# Which antigens are refused?

Refusals by antigen, 2012 (excluding Rotavirus vaccines)





# Designer schedules and other extra visits

How long is it taking to get vaccinated?

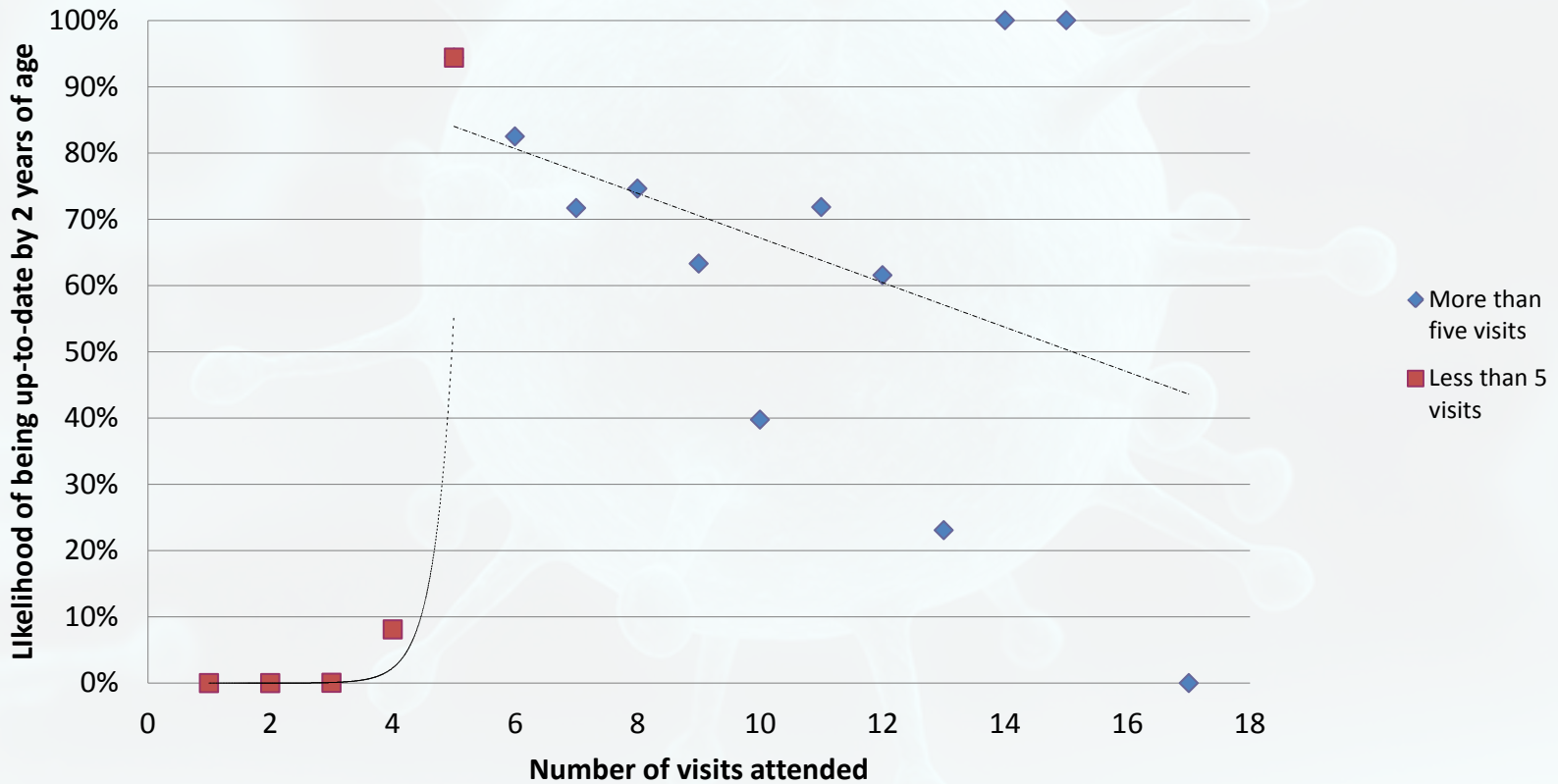
5.18 visits on average

# How many visits have children used?

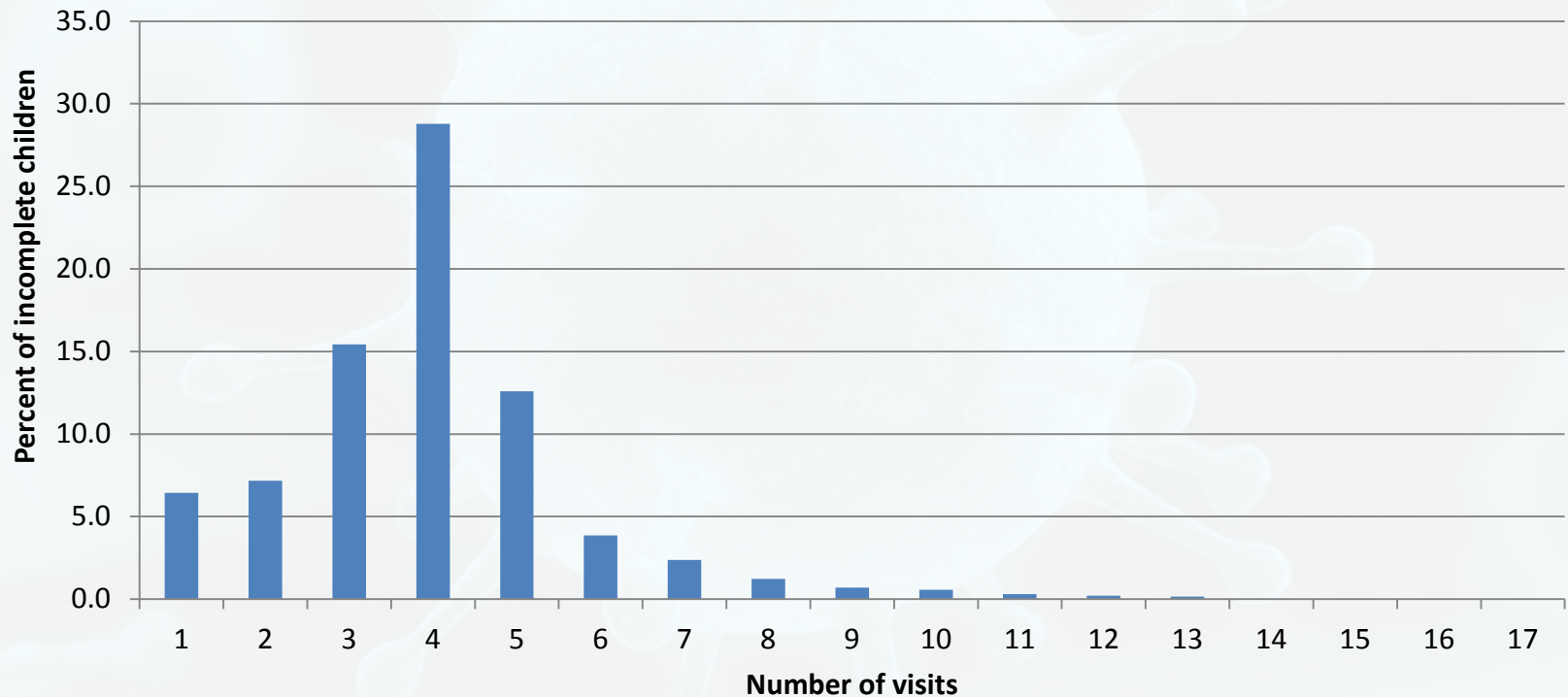
- 68.7% had exactly 5 visits
- 18.5% had 4 or fewer
- 12.8% had 6 or greater
  - 32.5% in total had an indication for an extra visit



# Diminishing returns with extra visits: proportion of incomplete children with each number of visits vs likelihood of being up-to-date by 2 years of age by number of visits completed



# Proportion of incomplete children by numbers of visits



# Conclusions, part 1

- Most children who are not up-to-date have had a number of vaccines.
- Trends in poorer timeliness and completion are broad
- Vaccine-specific hesitancy common but not the biggest barrier to schedule completion
- Refusal issues higher around newer vaccines and influenza, not necessarily vaccines that have faced a lot of unfounded critique (e.g. MMR)

# Conclusions, part 2

- Extended schedules don't support eventual completeness
- Questions regarding
  - Parental prioritization
  - Perceived value
  - Service accessibility
- Parents need a reason to come in for 12 and especially 18 month visits

# Acknowledgements



- Michelle Murti
- Stephanie Konrad
- Fraser Health Communicable Disease Nurse Coordinators

# Strengths and limitations

- Represents both public health and physician delivered immunizations
- Data quality
  - questions about denominator
  - reporting from physicians
- Refusal indicator problematic
- Missing helpful fields