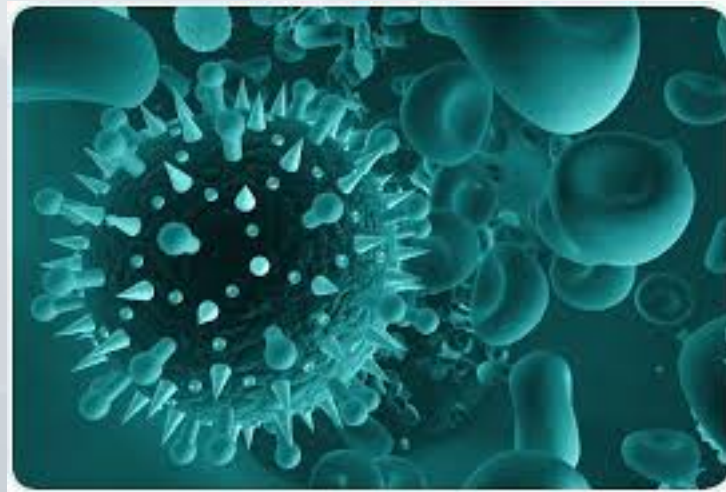


# RSV Surveillance

## Clinical characteristics



Nigel Crawford  
WHO meeting  
Washington DC December 2017

# Outline

- Review some of the clinical features
  - Variations by age
  - Special risk factors
  - RSV cohort c/w overall dataset
  
- Next steps





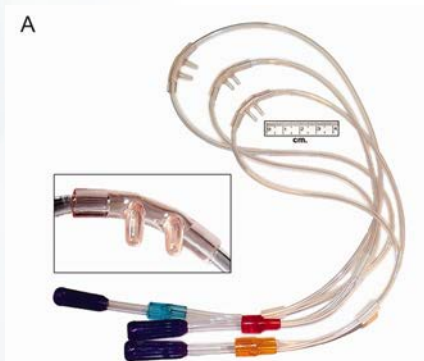


bio21<sup>nl</sup>  
institute<sup>ne</sup>

# RCH Parkville Melbourne



# Bronchiolitis



# Bronchiolitis @ RCH



Articles

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## Nasogastric hydration versus intravenous hydration for infants with bronchiolitis: a randomised trial



*Ed Oakley, Meredith Borland, Jocelyn Neutze, Jason Acworth, David Krieser, Stuart Dalziel, Andrew Davidson, Susan Donath, Kim Jachno, Mike South, Theane Theophilos, Franz E Bahl, for the Paediatric Research in Emergency Departments International Collaborative (PREDICT)*

Lancet 2012

# WHO RSV Pilot study CRF

Study ID:

Patient Initials:  -

## WHO Form

Country Code: \_\_\_\_\_  
Site Code (geographic location): \_\_\_\_\_  
Patient's unique identification no.: \_\_\_\_\_  
Type of surveillance (eg; hospital, medical centre): \_\_\_\_\_  
Name of healthcare worker: \_\_\_\_\_  
Date of sample collection and completion of form: // (dd/mm/yyyy)

### Patient Identification

Family Name: \_\_\_\_\_  
Given Name: \_\_\_\_\_  
Gender:  Male  Female  
Date of birth: // (dd/mm/yyyy)  
Age: \_\_\_\_\_  
Years Months

### Clinical Information

Date of symptom onset: // (dd/mm/yyyy)  
Date of ED presentation: // (dd/mm/yyyy)

### Signs & Symptoms

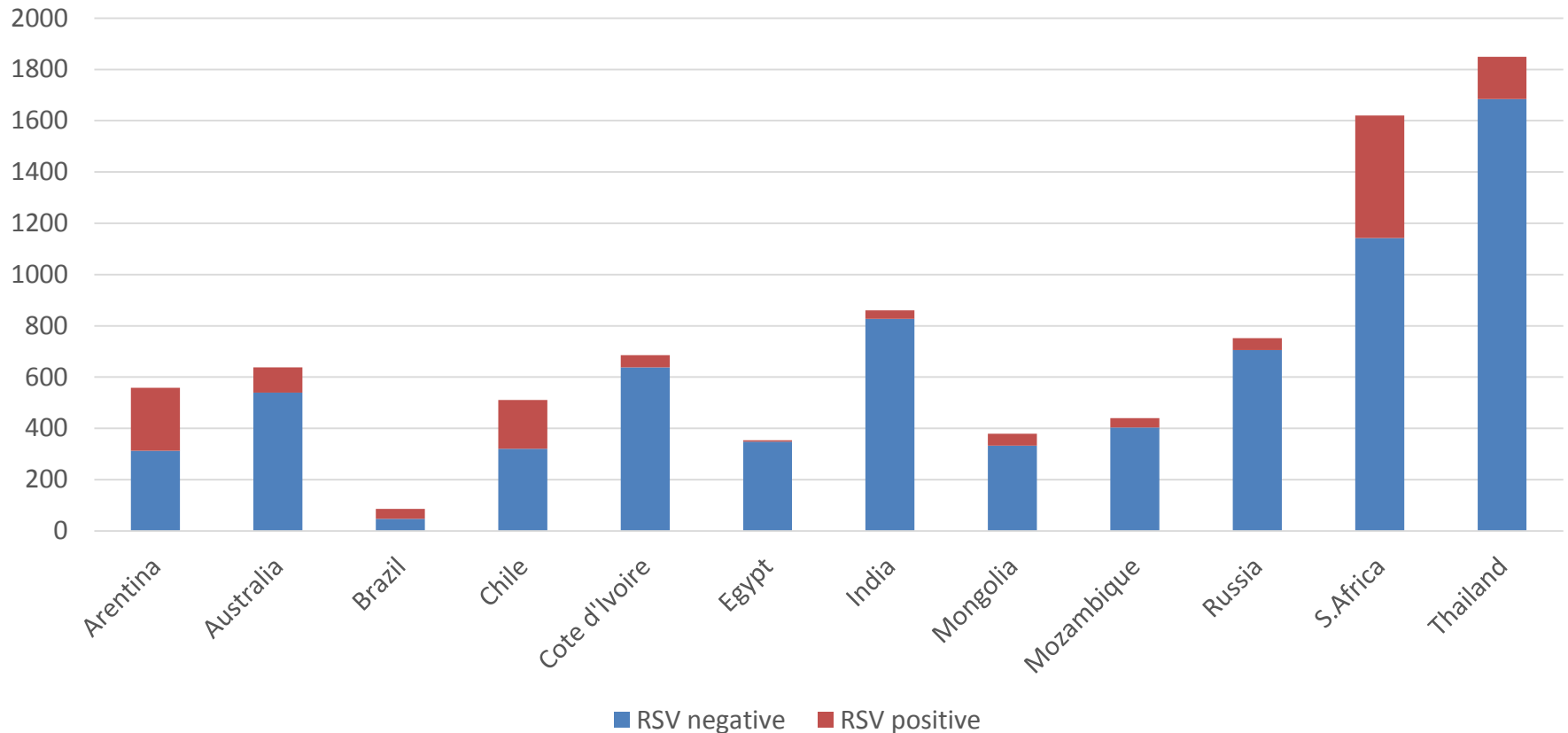
Requires hospitalisation:  Yes  No  
Symptom onset within last 10 days (acute):  Yes  No  
Cough:  Yes  No  
Shortness of breath:  Yes  No  
Measured fever  $>38^{\circ}\text{C}$ :  Yes  No  
History of fever:  Yes  No  
Wheezing:  Yes  No  
Sore throat:  Yes  No  
Coryza:  Yes  No  
Chest indrawing:  Yes  No  
Infant (0-6 months) presents with: Apnea  Yes  No  
Infant (0-6 months) presents with: Sepsis  Yes  No  
Respiratory rate:  breaths per minute

### Diagnosis

Hospital admission diagnosis: \_\_\_\_\_  
SARI:  Yes  No

# Clinical features: WHO RSV Pilot study

Case numbers: RSV by country

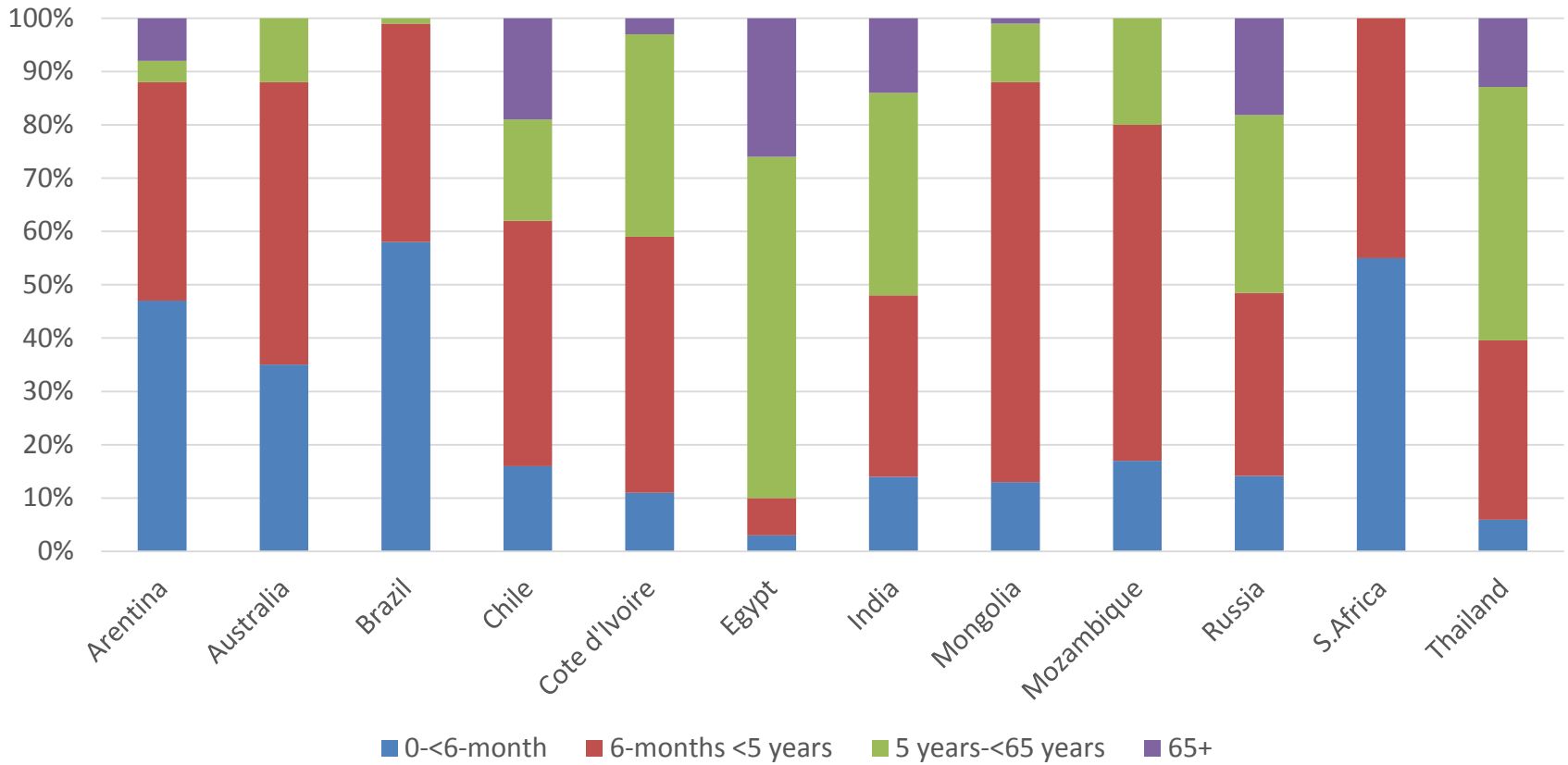


[Total: 8778; RSV positive 1429 (16.3%)]

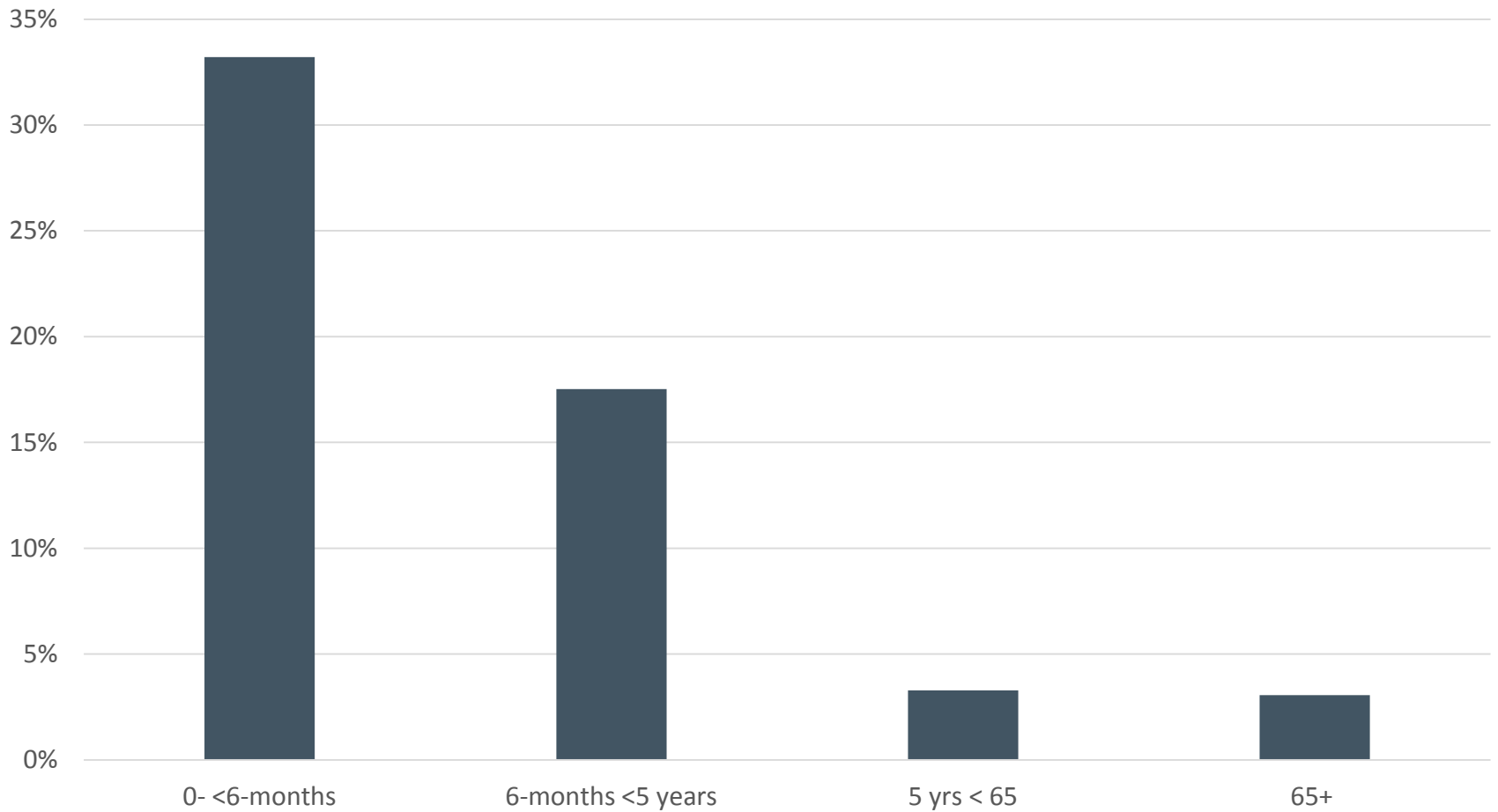


# Age cohorts

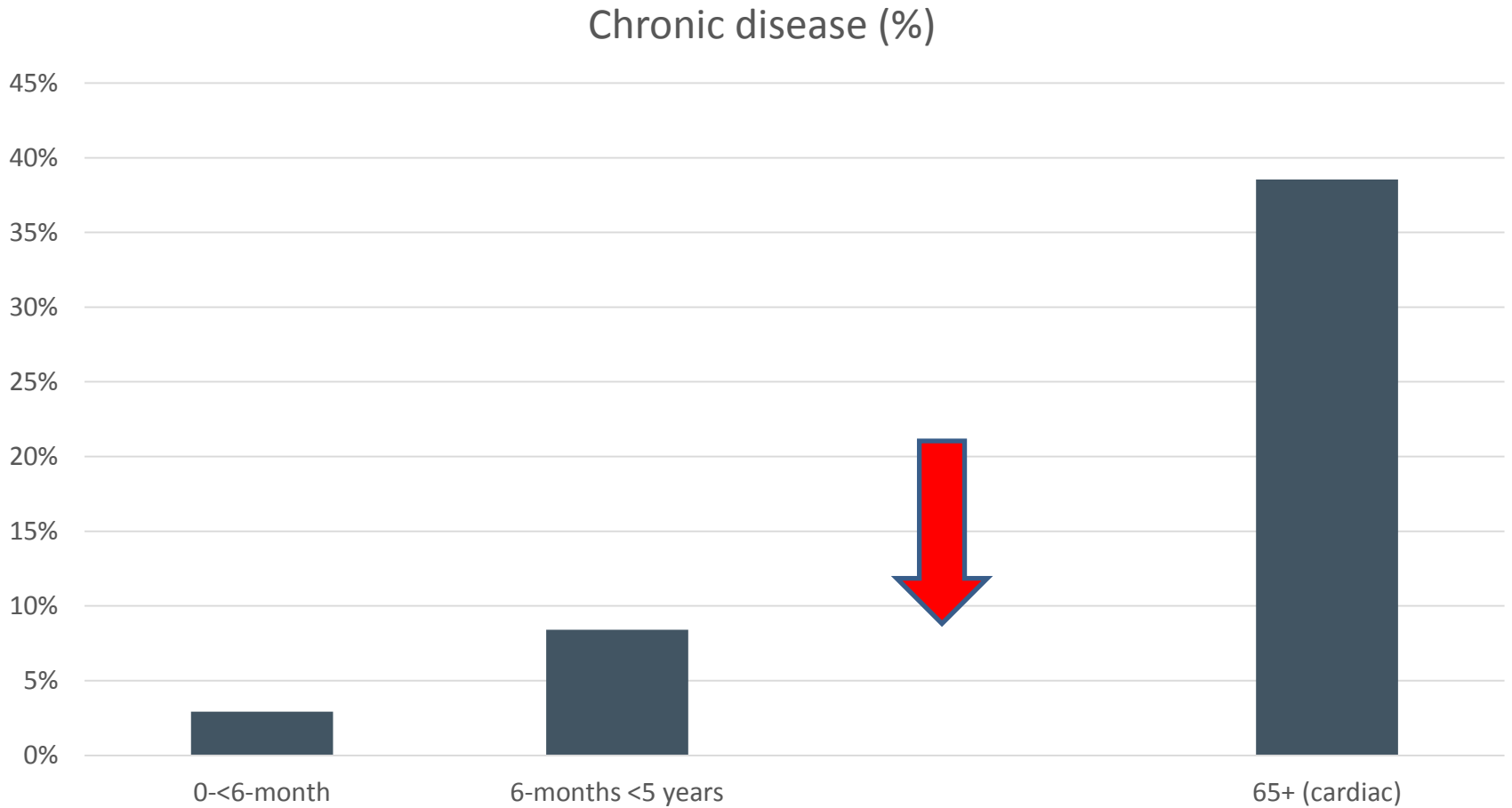
By Country



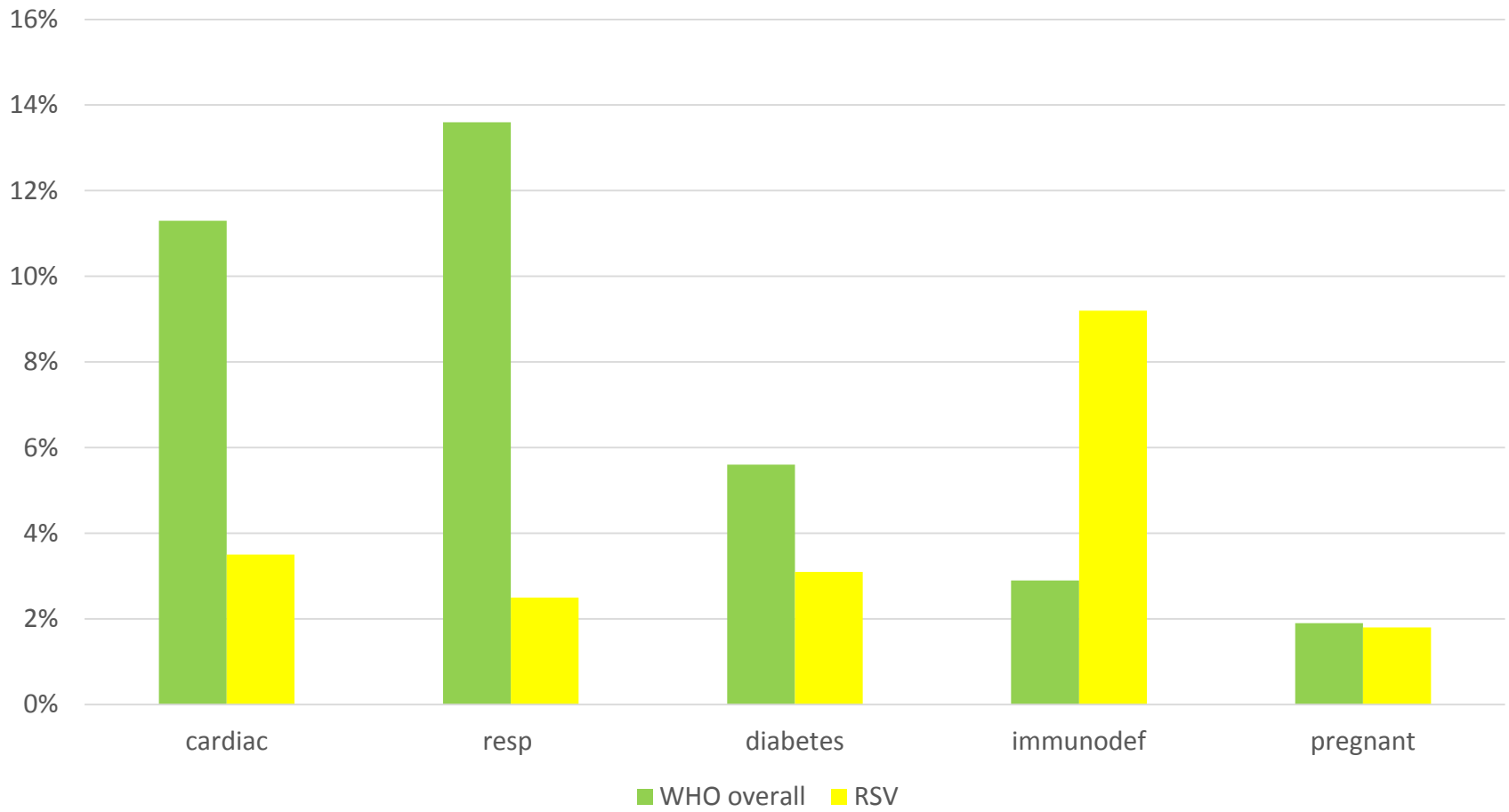
# RSV positive by age (%)



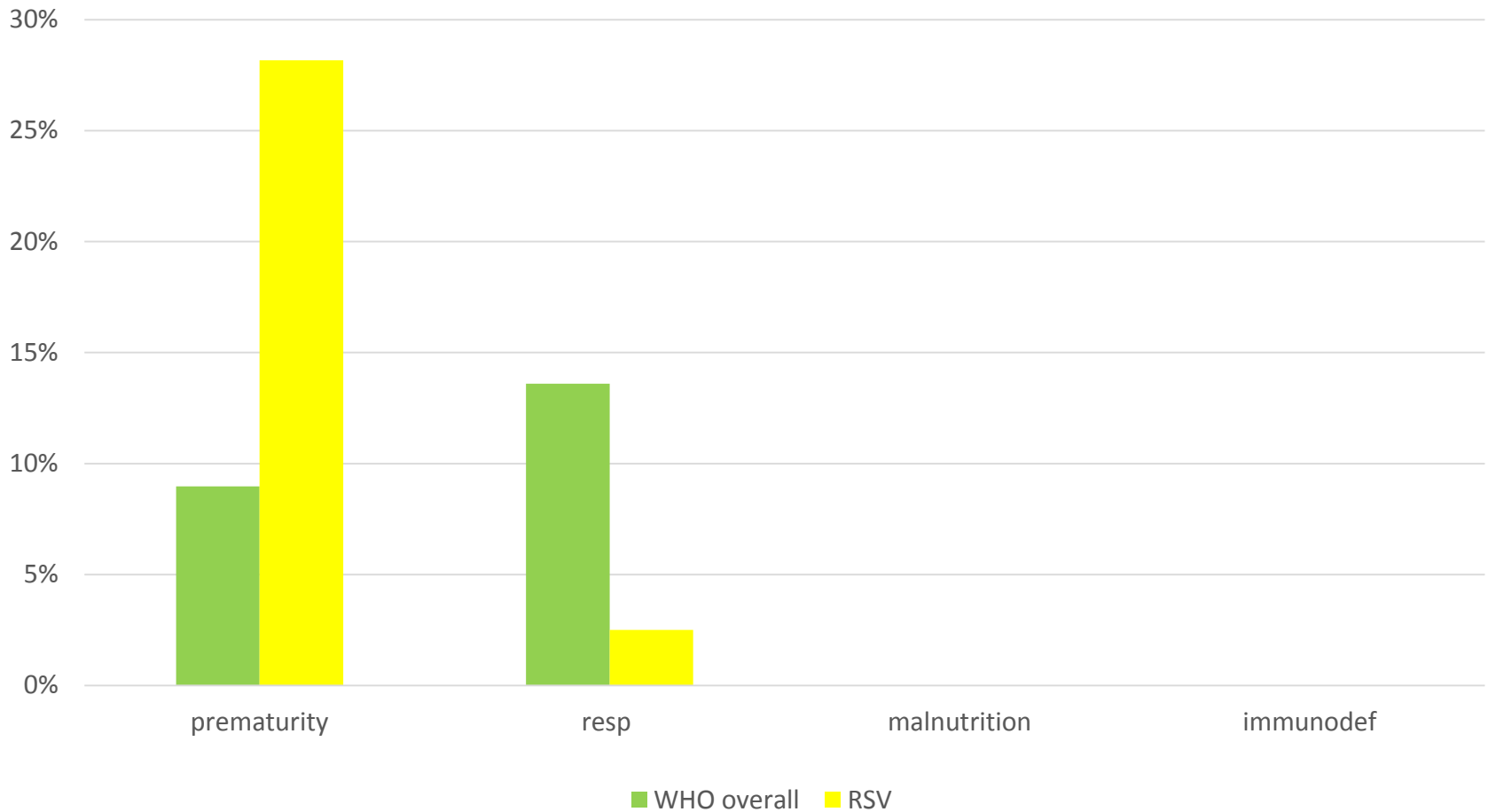
# Age group and chronic disease



# Pre-existing special risk conditions (adult)



# Pre-existing special risk conditions (child)



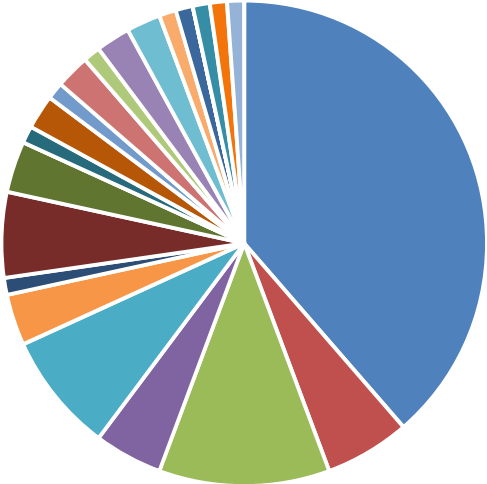
426 preterm; 343 respiratory; 15 cases malnutrition; 34 immunodeficiency

# Diagnosis

- Will vary by country:
  - Age
  - Chronic illness
  - Type infection(s)
  - Seasonality
  - Other factors...
- ICD-10 data coding
  - CRF (currently free text)

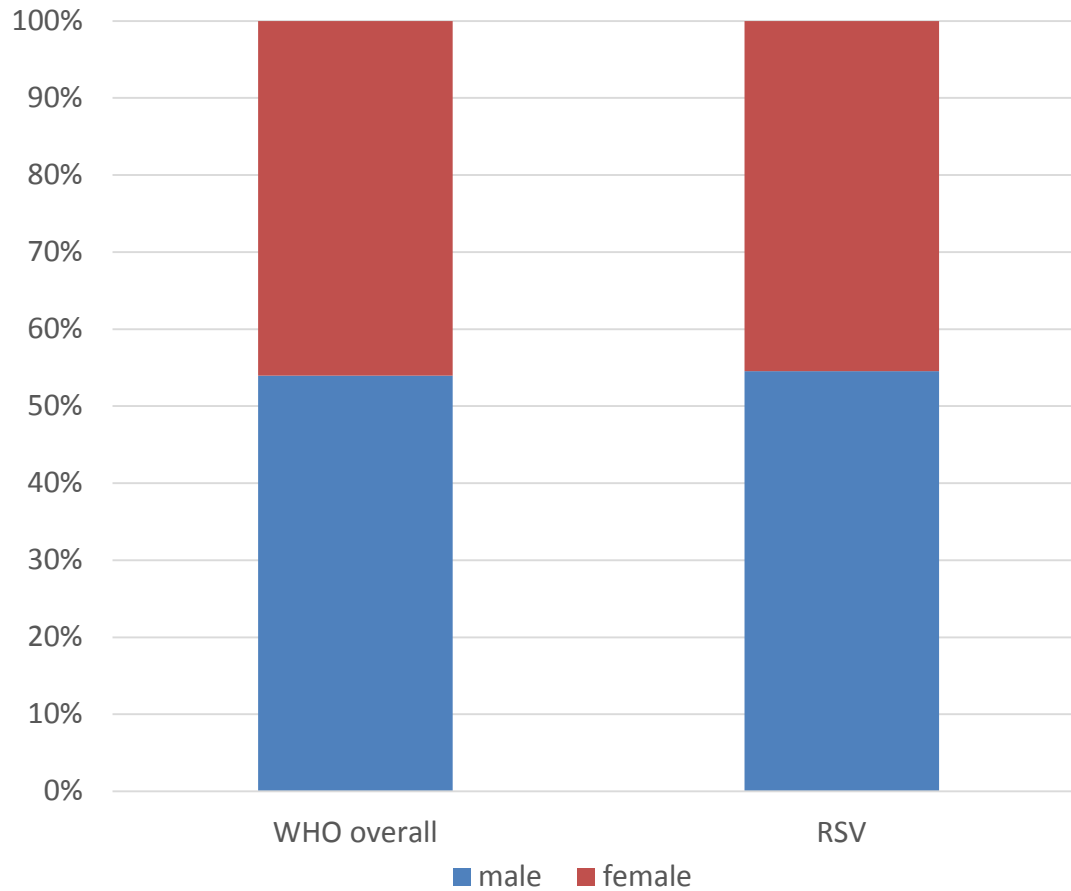
# Diagnosis: Melbourne Australia

Diagnosis



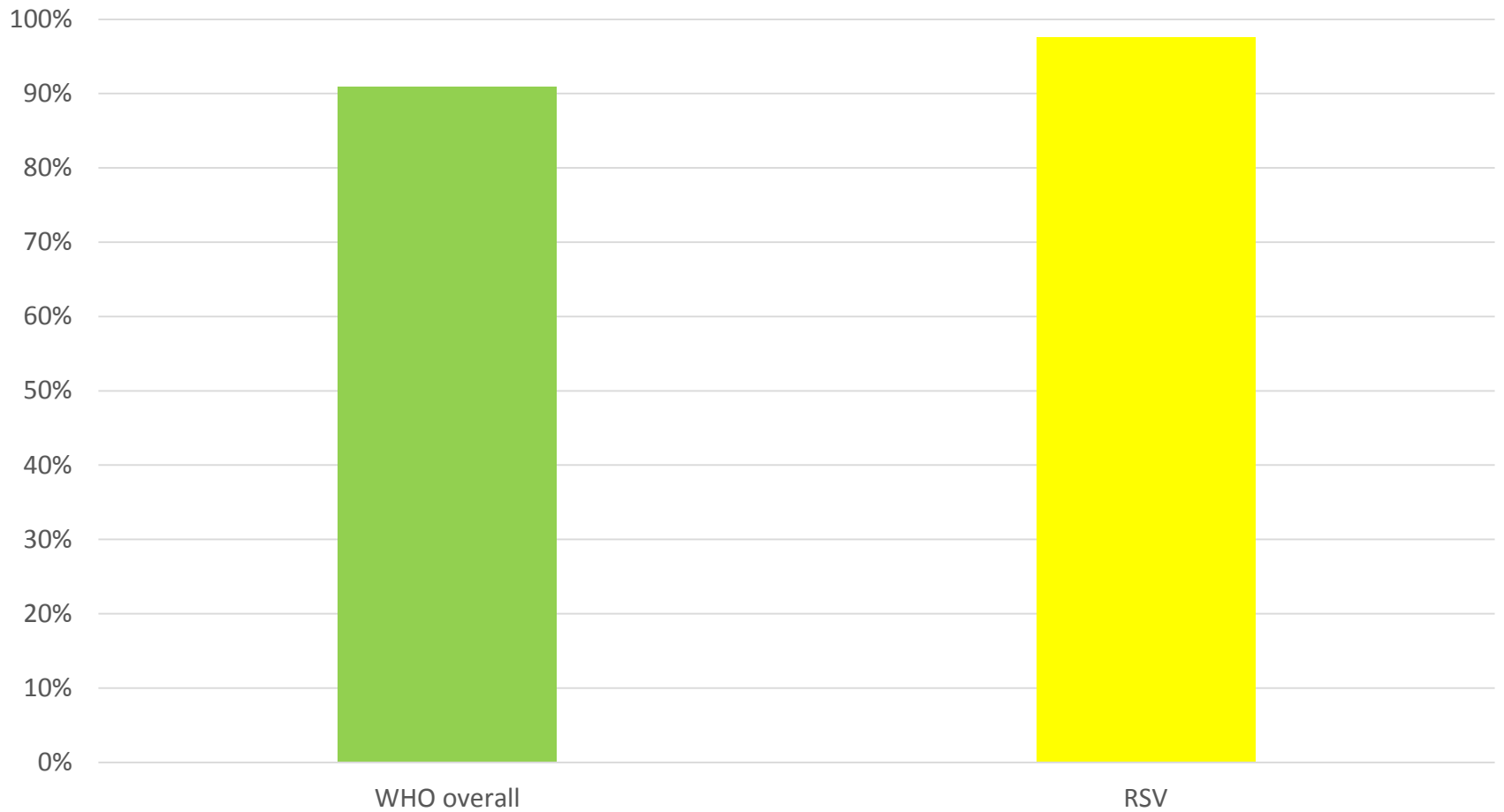
- Bronchiolitis
- Fever of Unknown Origin/PUO
- LRTI/URTI/RTI
- Viral Illness/Infection
- Asthma/Wheeze
- Pneumonia/Empyema/Pleural Effusion
- Sepsis
- Seizure/Convulsion/Status
- Dehydration
- Acute Febrile Illness
- Apnoea
- Croup
- Rash
- Neuro (meningitis, altered level of consciousness, lethargy, blocked shunt)
- Cough
- Vomiting
- Tachypnoea/Stridor/SOB/Periodic Breathing
- Influenza/Flu
- Tonsillitis/Acute obstruction/Tracheitis
- Feeding difficulties/prematurity/health condition in neonate
- Pertussis

# Gender

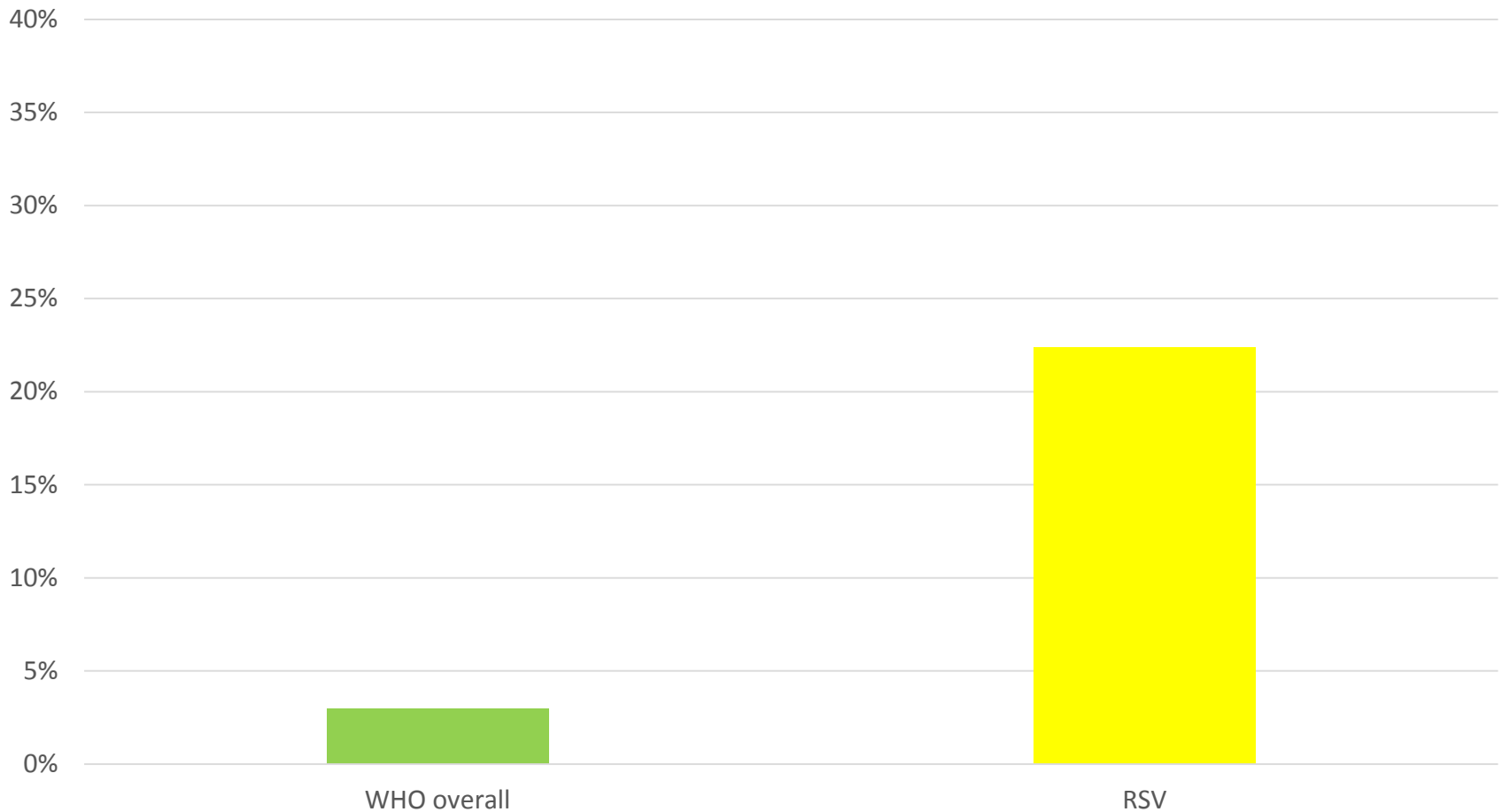




# Cough (%)

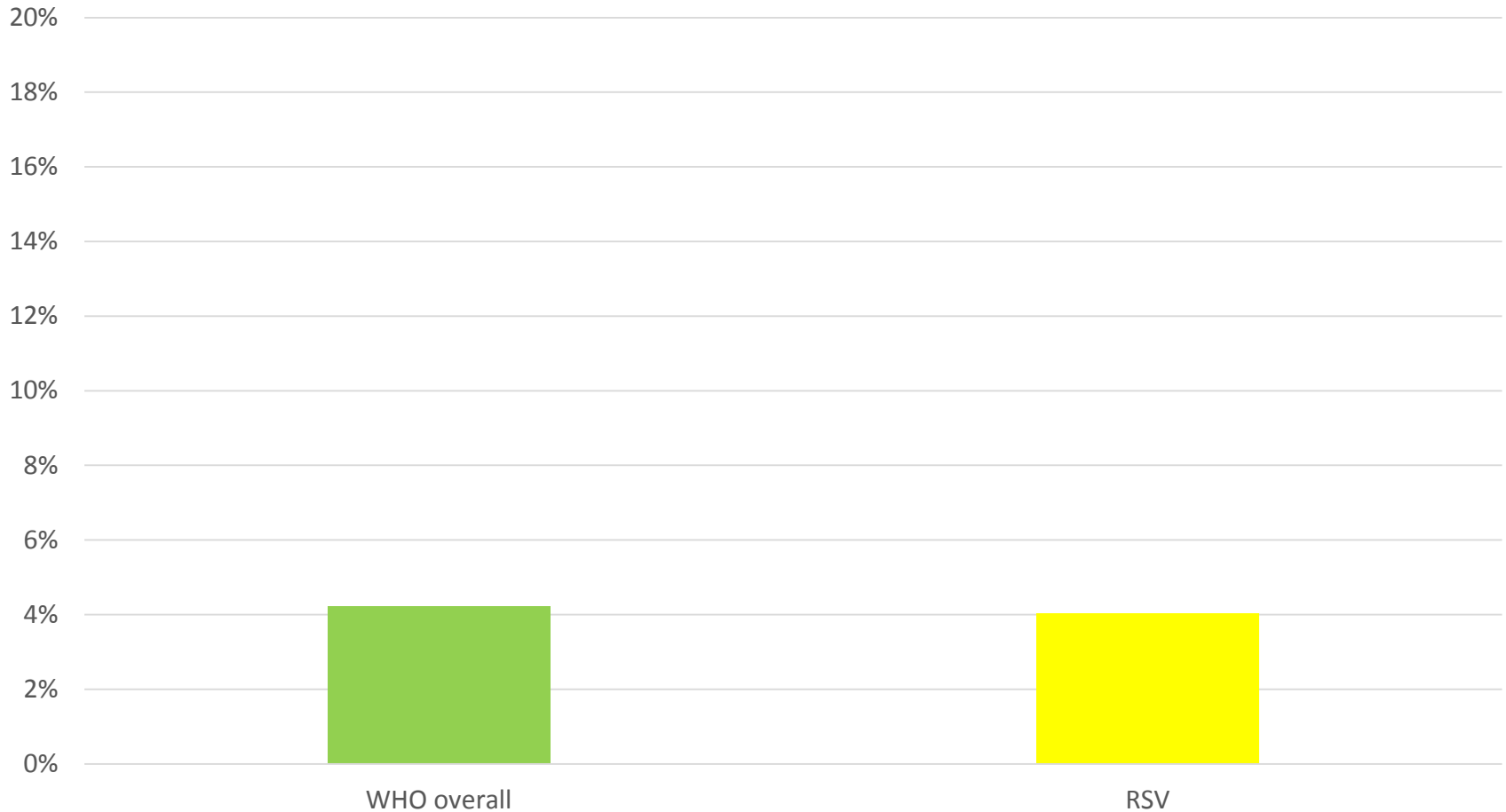


# Apnoea infants < 6/12 (%)



**N= 170:** <6/12 (145); 6/12 5 years (24); 6-65 (1)

# Sepsis infants < 6/12



N= **278**: <6/12 (268); 6/12 - <5 yrs (9); 5-65 yrs (1)

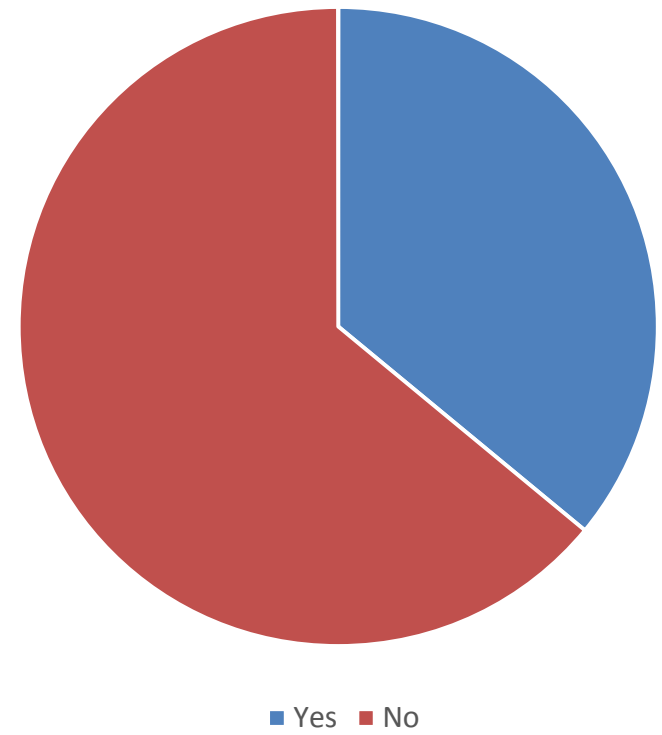
# Next steps

- Country specific evaluation of clinical features
- Investigate by **age** and **condition(s) of interest**
  - e.g. Bronchiolitis
    - Special risk factors
  - Intensive Care utilization
  - Co-infection (Influenza + others)
  - RSV sub-type and WGS

# Australia: Intensive care- RSV positive

	<u>+ve</u> <u>n (%)</u>	<u>-ve</u>	<u>Total</u>
General Ward	<b>64 (15)</b>	366	430
PICU/NICU	<b>24 (23)</b>	82	106

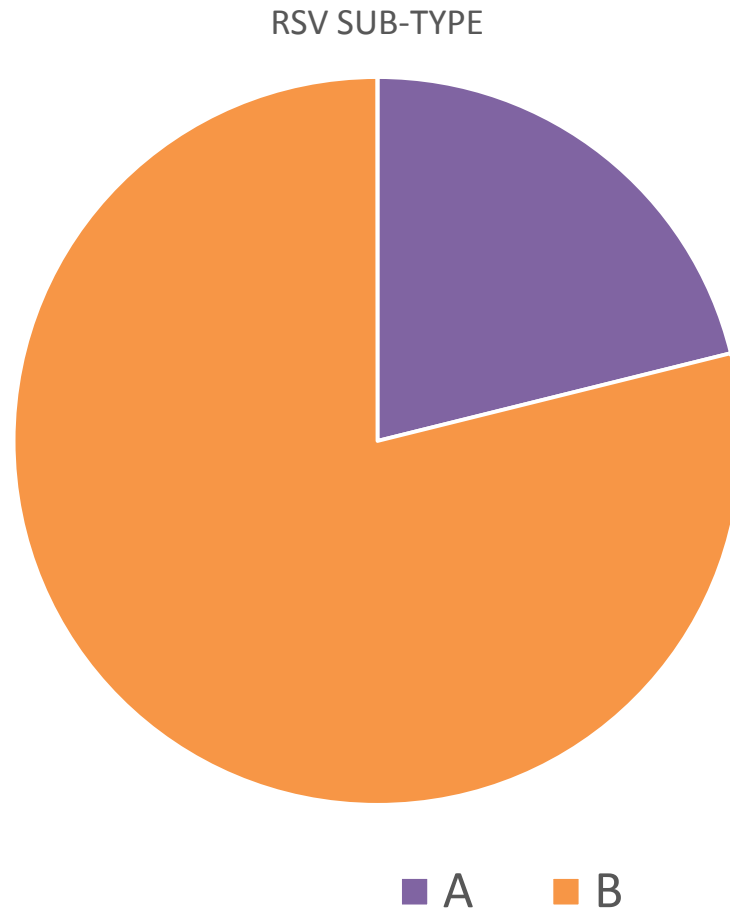
High flow oxygen



# Co-infection

	RSV negative	RSV positive
Flu negative	5682	1313
Flu positive	1331	<b>104</b> <b>(N= 8613; 1.2%)</b>

# RCH- Australia data



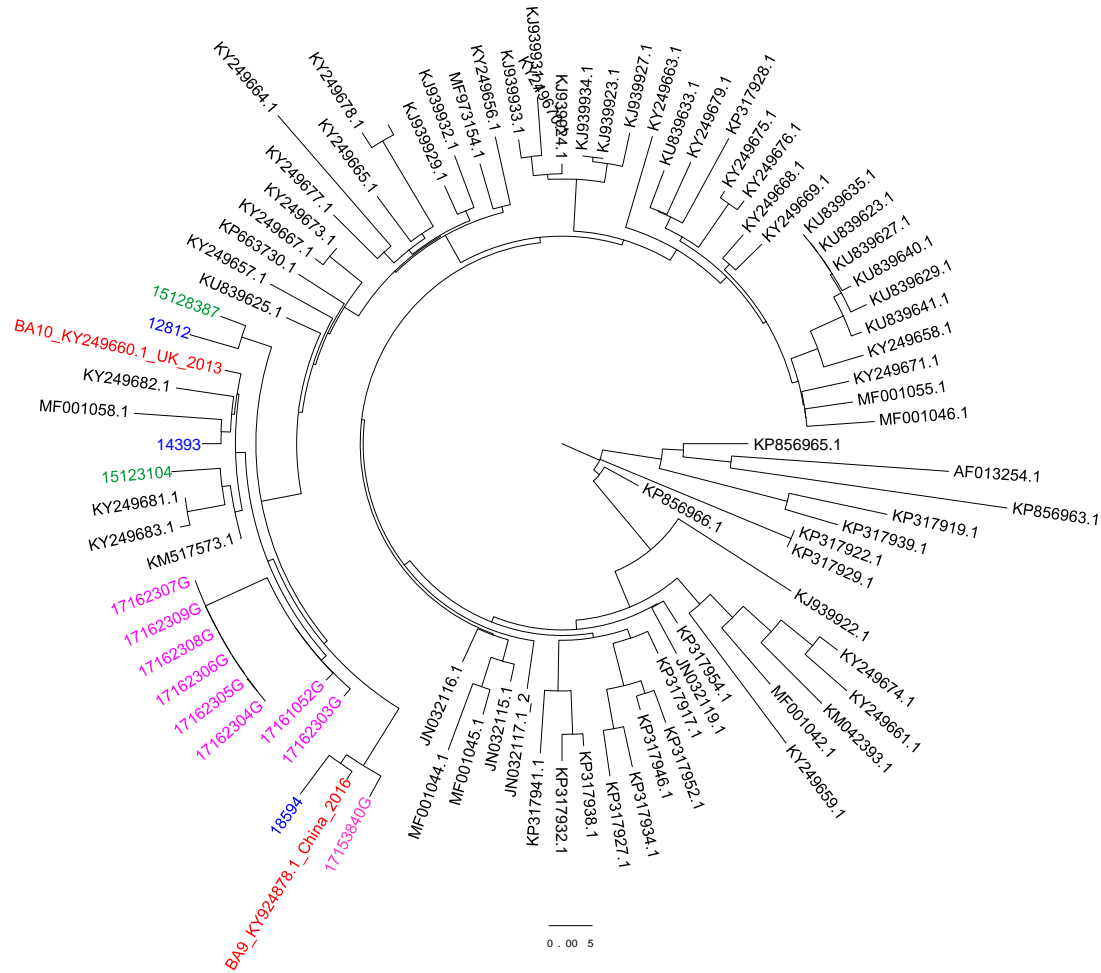
# RSV-B G phylogenetic tree

RCH 2017

VIDRL 2015

Hospital cases 2017

Reference





# Acknowledgements

- Global sites for providing data
- WHO pooling the data and coordinating the meeting