Highlights of 2020 Newborn Services Report

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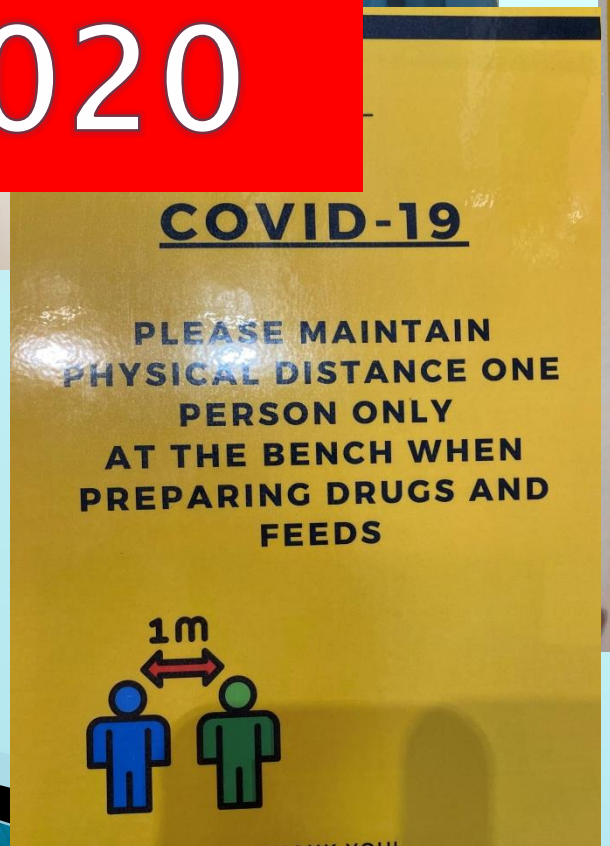
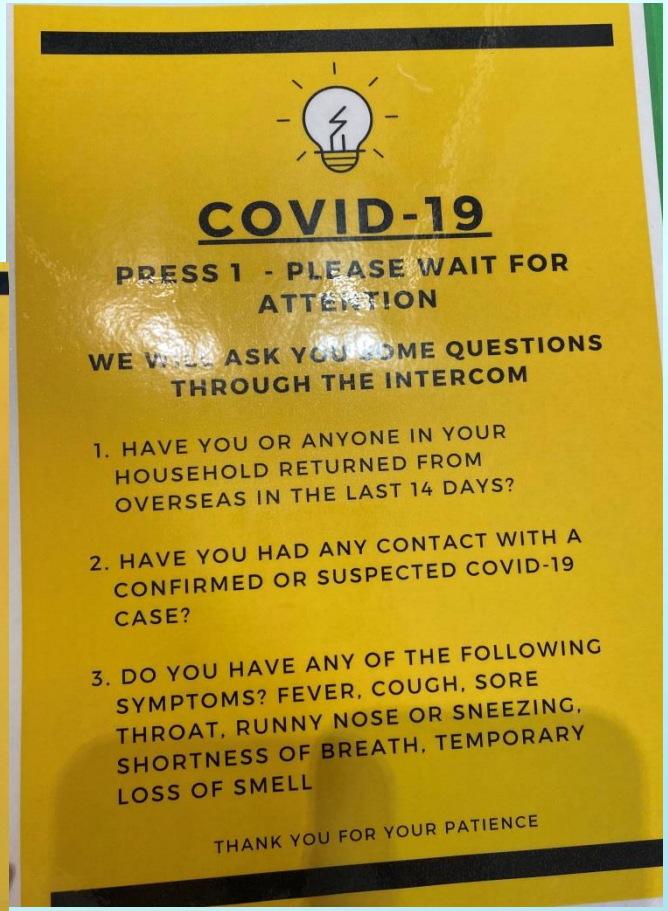
STARSHIP NICU AND COVID-19: A BIG RESPONSE TO PROTECT TINY PATIENTS
Lizzie & Bonnie
Kaitlyn

2020


3 people at 1 time
2 meters apart!
coughing etiquette & hand washing
Protect yourself & others!
Starship Child Health
Unite against COVID-19


COVID-19
PLEASE MAINTAIN PHYSICAL DISTANCE ONE PERSON ONLY AT THE BENCH WHEN PREPARING DRUGS AND FEEDS
1m


COVID-19
PRESS 1 - PLEASE WAIT FOR ATTENTION
WE WILL ASK YOU SOME QUESTIONS THROUGH THE INTERCOM
1. HAVE YOU OR ANYONE IN YOUR HOUSEHOLD RETURNED FROM OVERSEAS IN THE LAST 14 DAYS?
2. HAVE YOU HAD ANY CONTACT WITH A CONFIRMED OR SUSPECTED COVID-19 CASE?
3. DO YOU HAVE ANY OF THE FOLLOWING SYMPTOMS? FEVER, COUGH, SORE THROAT, RUNNY NOSE OR SNEEZING, SHORTNESS OF BREATH, TEMPORARY LOSS OF SMELL
THANK YOU FOR YOUR PATIENCE

Who is included in the report?

- Newborn chapter reports outcomes of babies cared for in NICU
  - Babies born at NWH and admitted to NICU
  - Babies transferred in-utero or ex-utero
    - Babies from within the region
    - CMDHB for surgical and cardiac input
    - Maternal fetal medicine patients
    - Overseas transfers

Who do we compare ourselves to?

- Locally – compared to previous years
- Nationally – as part of ANZNN
- Internationally – Australian neonatal units
  - ANZNN dataset
    - <1500g or <32 weeks, or respiratory support >4 hours or died on mechanical ventilation prior to 4 hours of age, major surgery or received cooling as treatment for NE
  - All level 3 neonatal units within Australasia and some from Asia

Highlights

- Covid-19 – reduction in admissions followed by rebound*
- Births over the years – decreasing trend*
- Term admission rate lower ☺
- Hypoglycaemia as main reason for admission remains low ☺
- Infections – high*

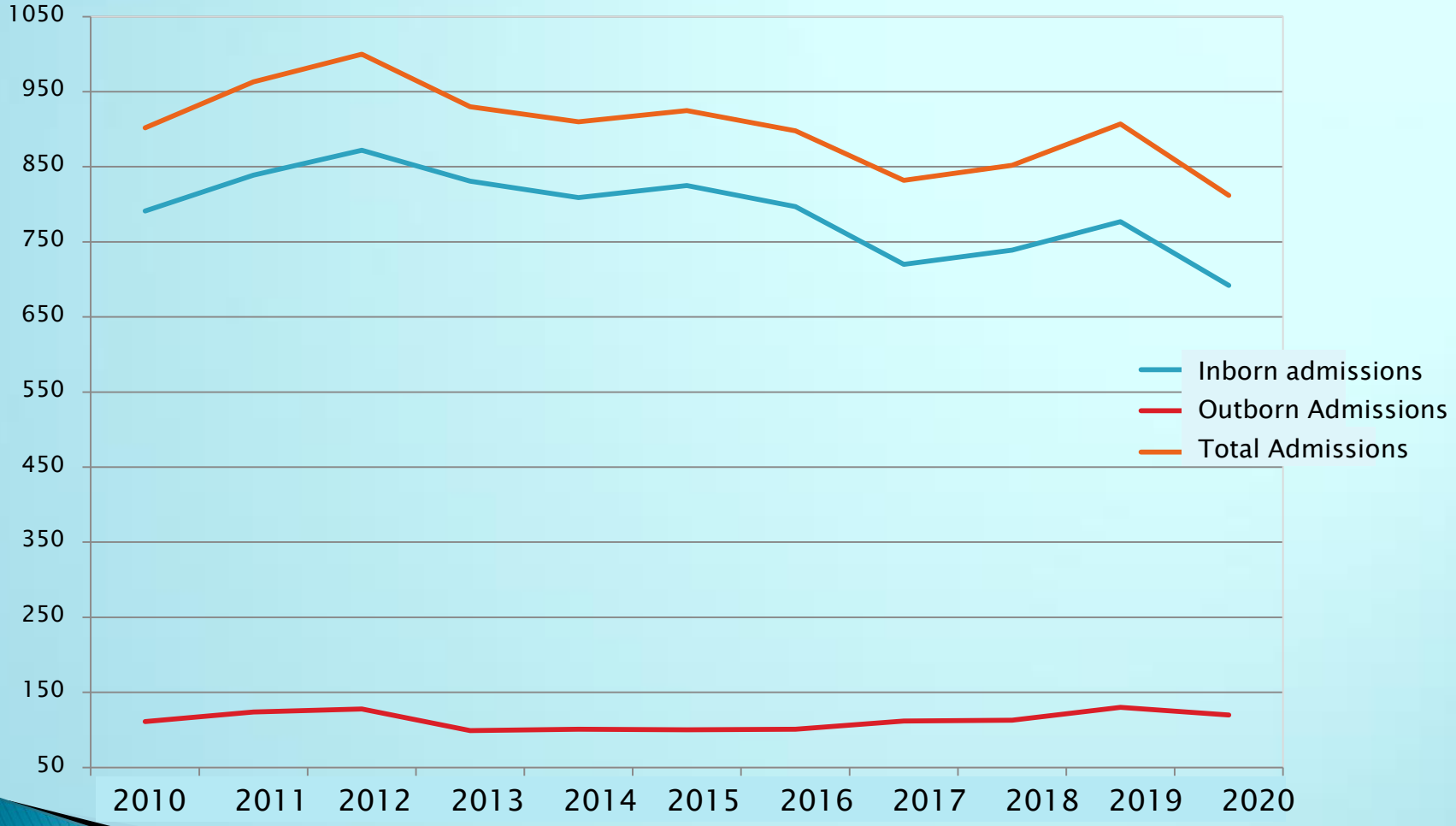
Highlights (con't)

- HIE – numbers much higher in 2019 ☹
- IVH rates – mild grades of IVH unusually high in 2019; average in 2020
- Ventilation changes
  - HFOV use increasing over the years
  - Days on CPAP increasing over the years – median of 28 in 2016 to 50 in 2020
  - Median IPPV days for babies >28 weeks – low ☺

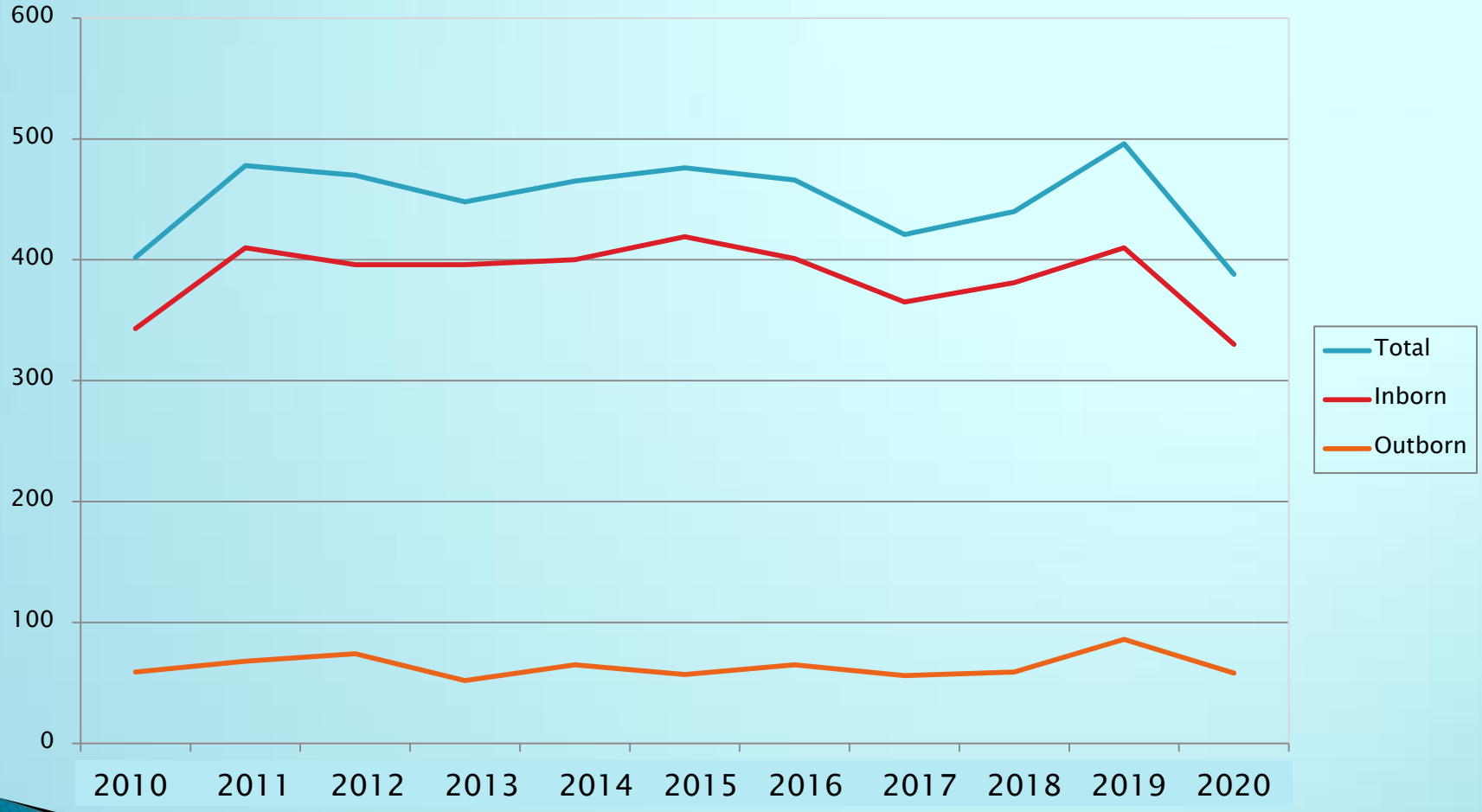
Highlights (con't)

- Survival overall and of extremely preterm babies good
- CLD rates high*
- Breast milk feeds*

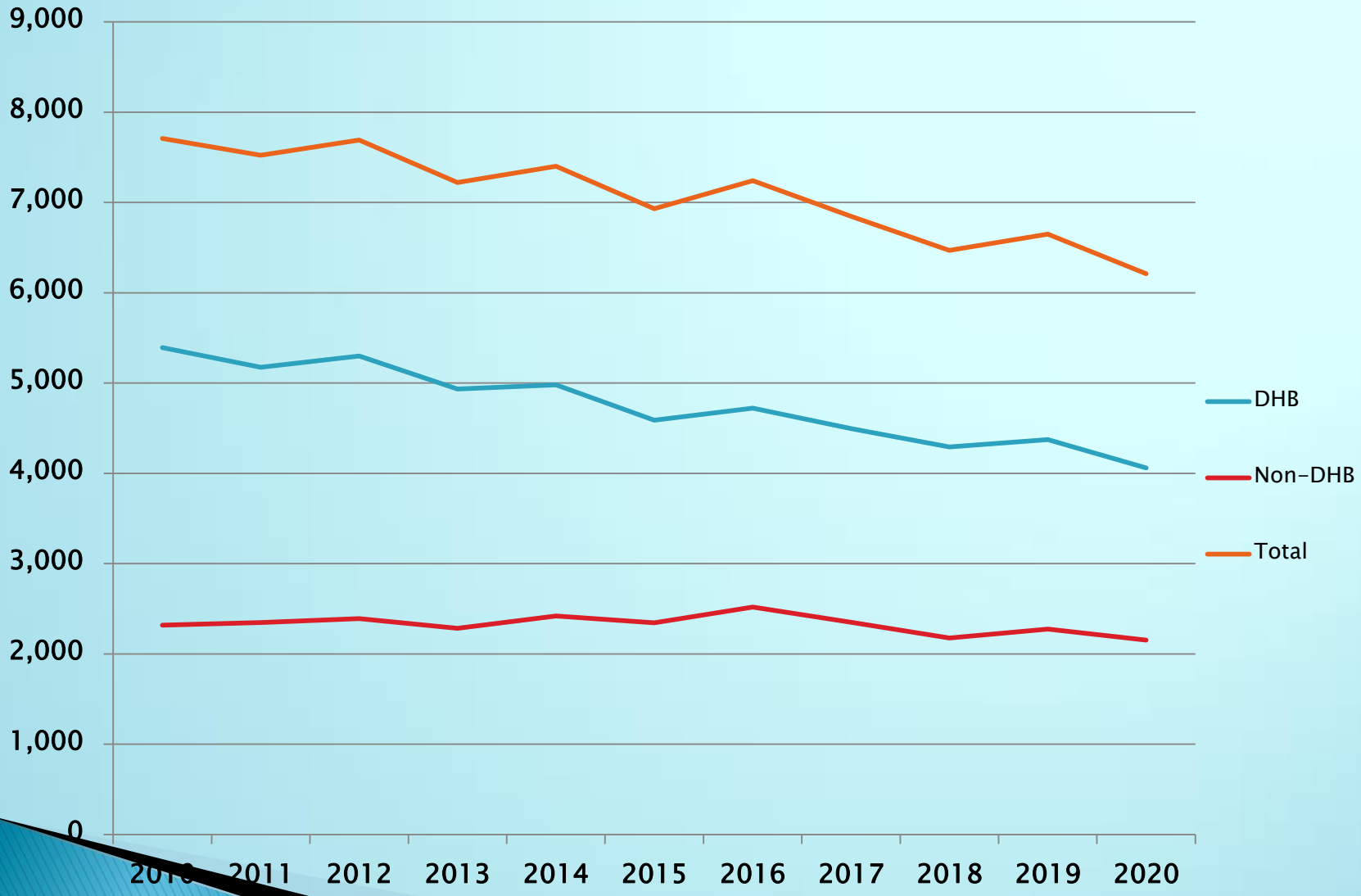
All Admissions



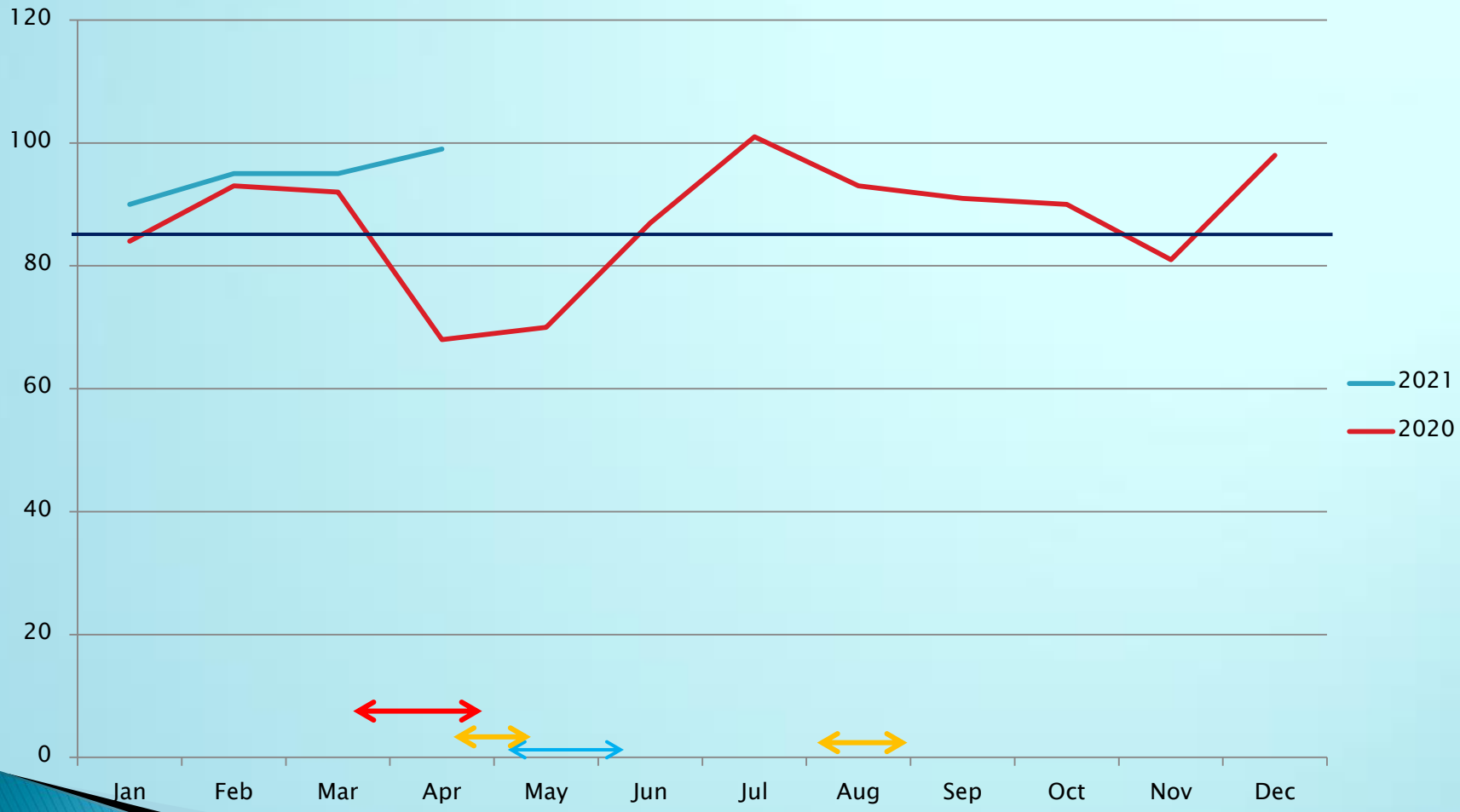
Term Admissions



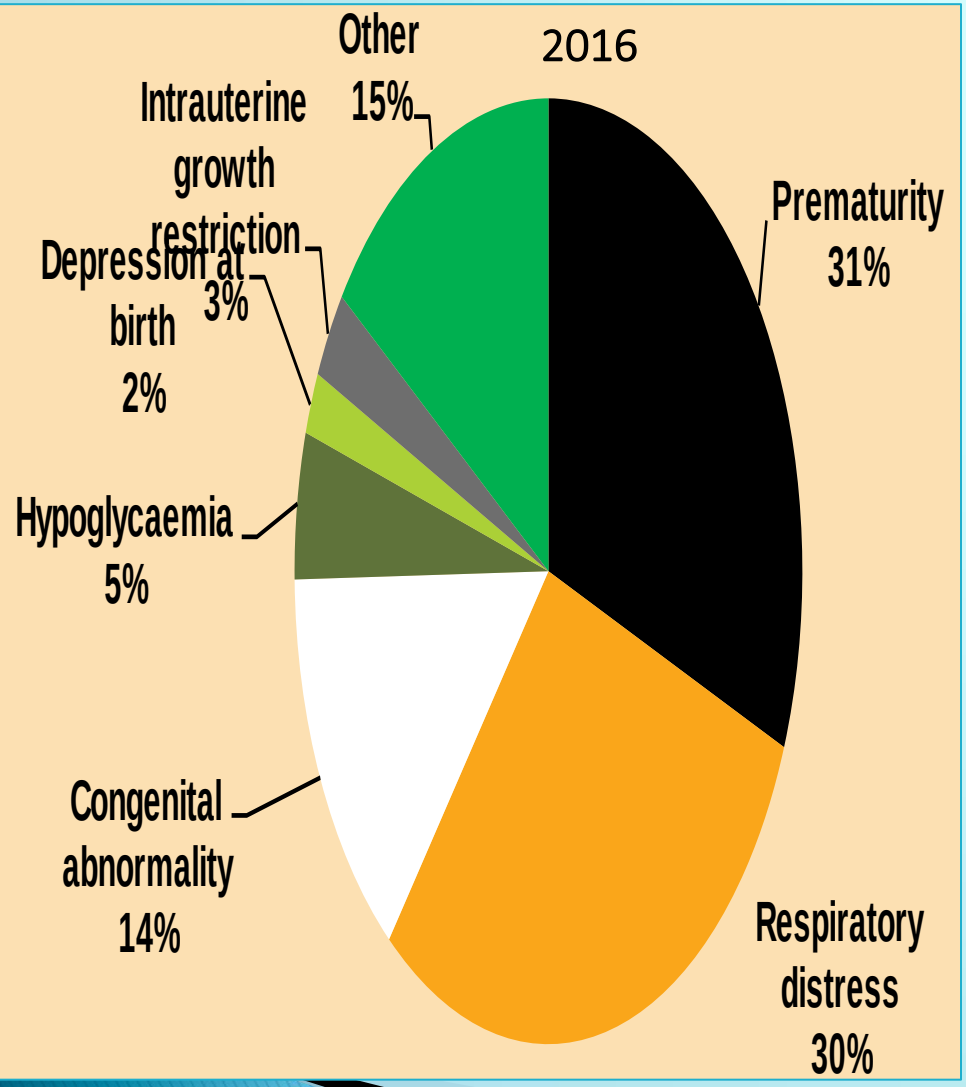
Births at NWH 2010 to 2020

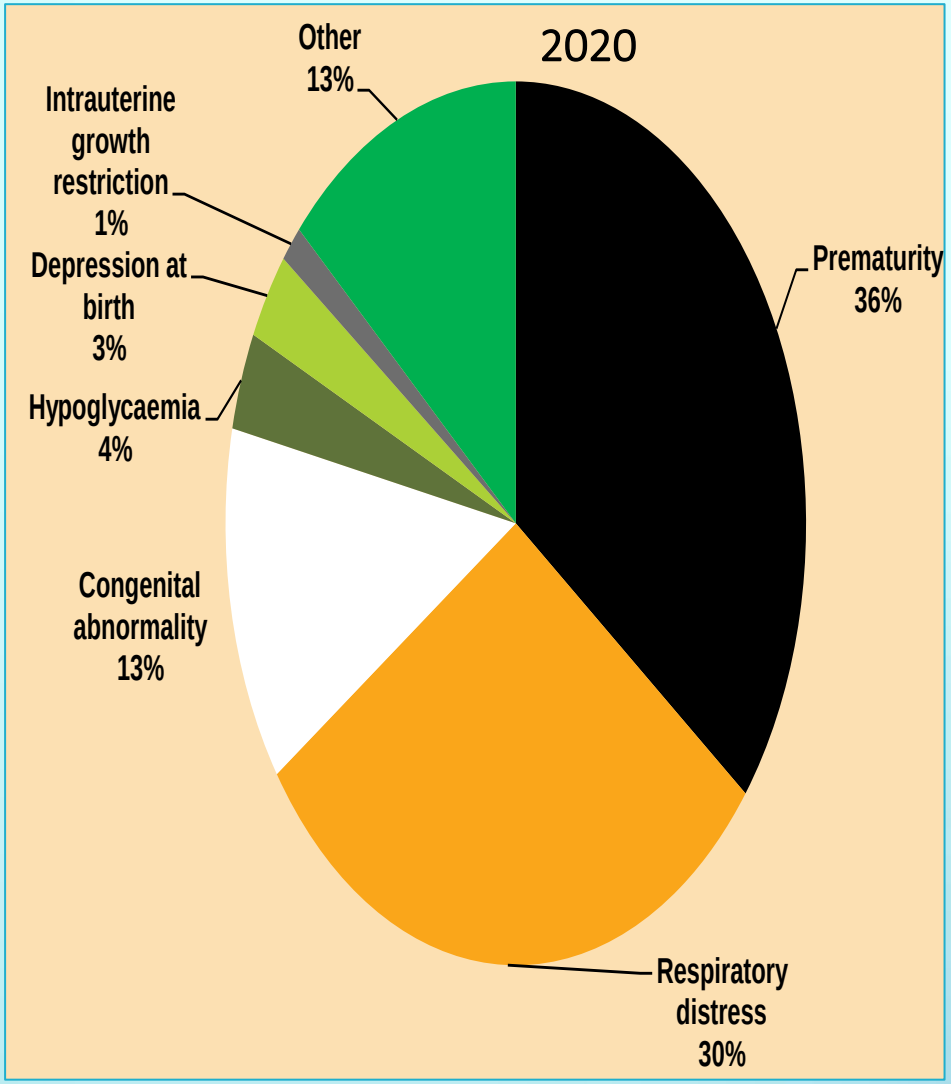


Average Monthly Occupancy (%)



Indications for admission

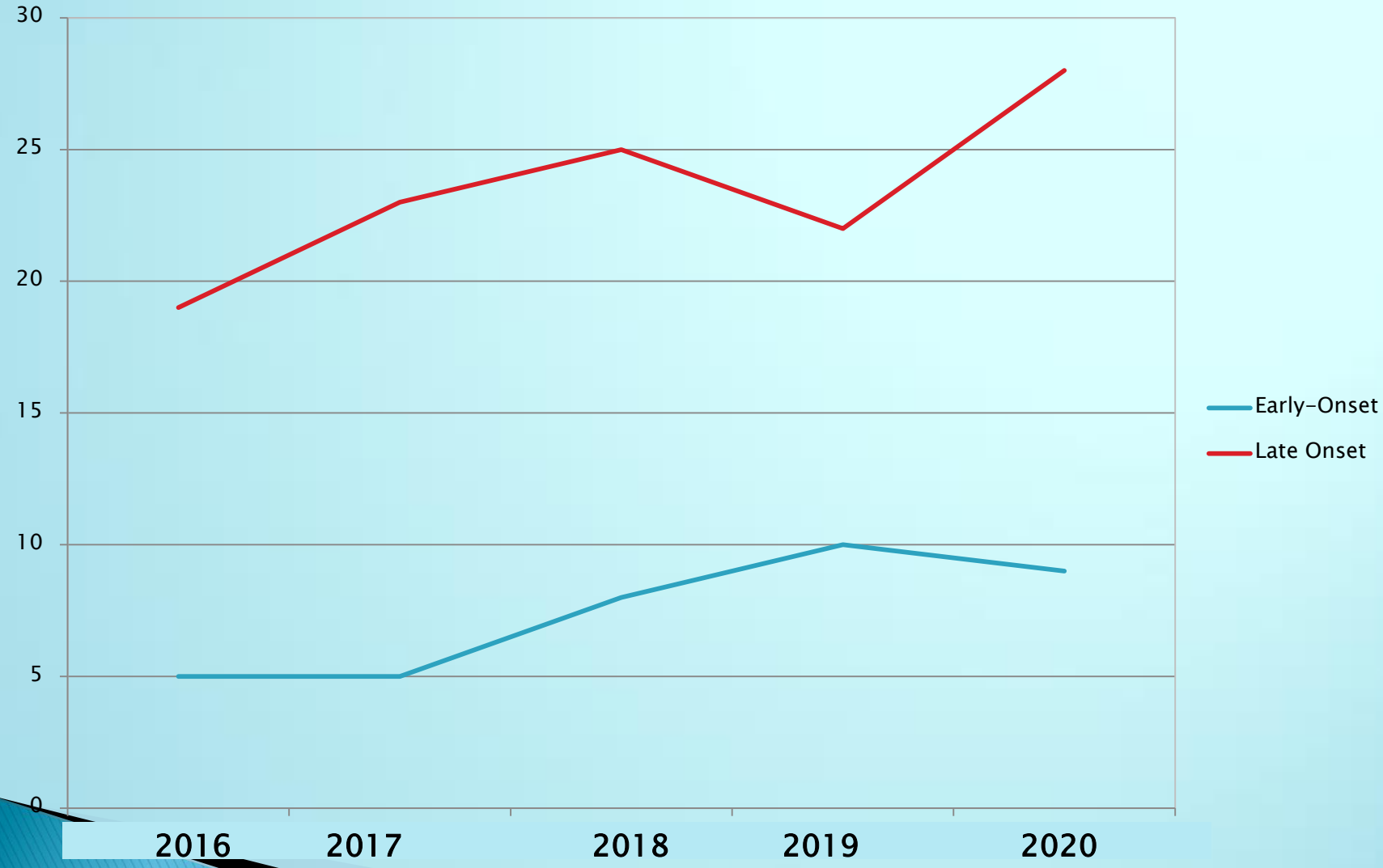




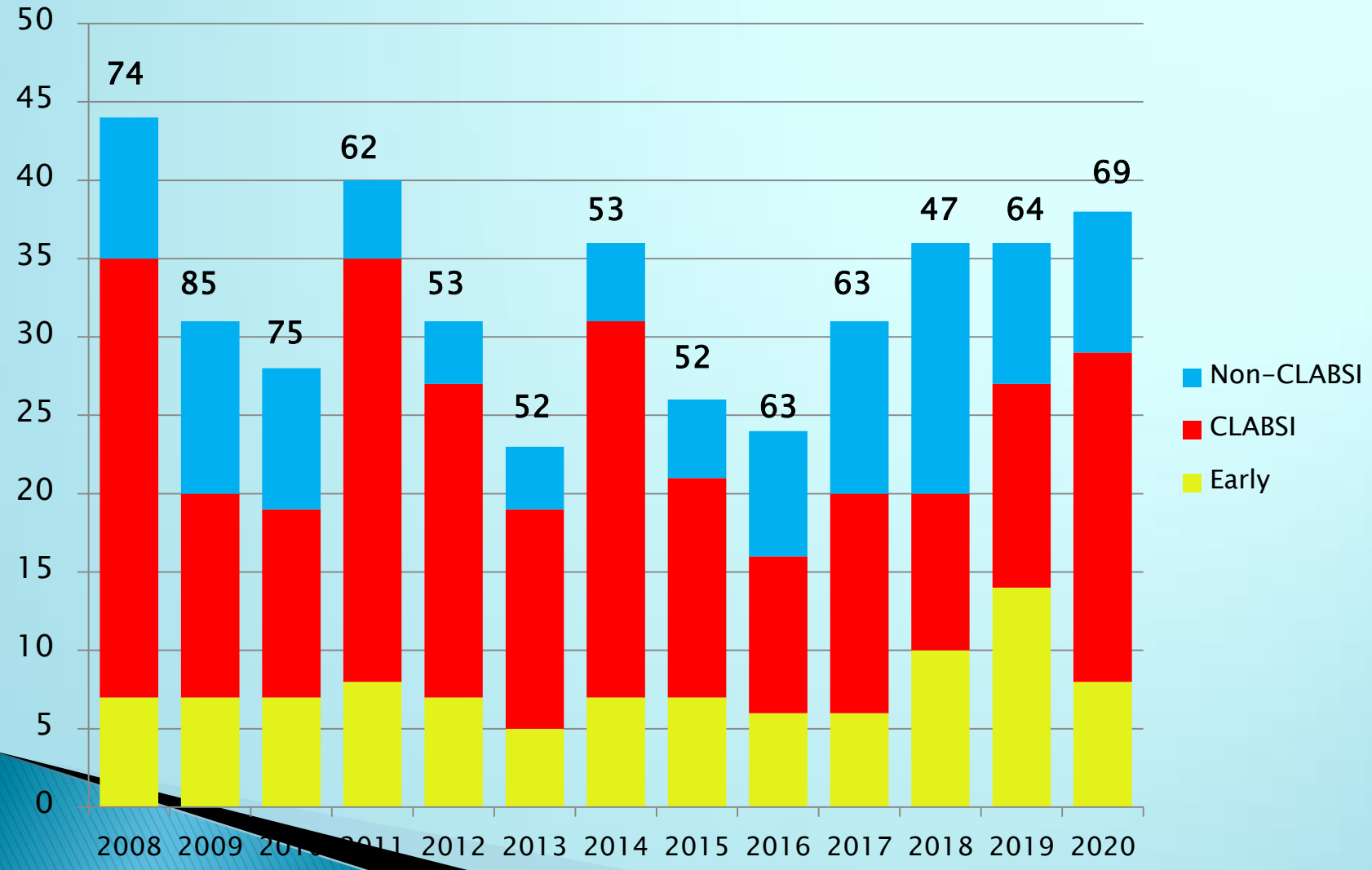
Sepsis

- Sepsis – systemic infection
  - Important cause of morbidity and mortality of newborns
- EOS – occurs in first 48–72 h
  - Vertically transmitted before or during delivery
- LOS – sepsis onset after 48–72 h of life
  - Leading cause of mortality in NICU

Sepsis

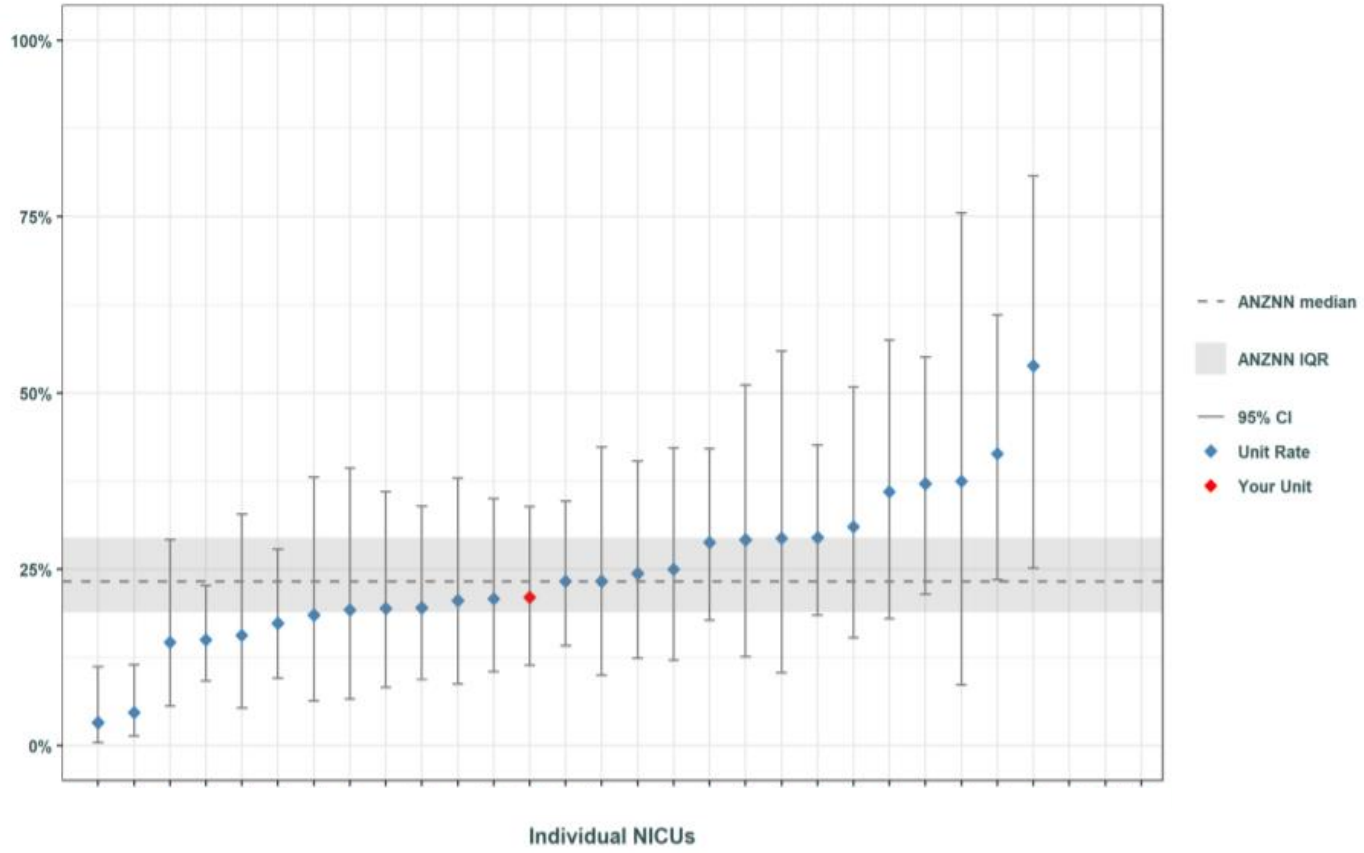

30
25
20
15
10
5
0
2016
2017
2018
2019
2020
Early-Onset
Late Onset

Sepsis: 2008 – 2020



Late-onset sepsis 2019

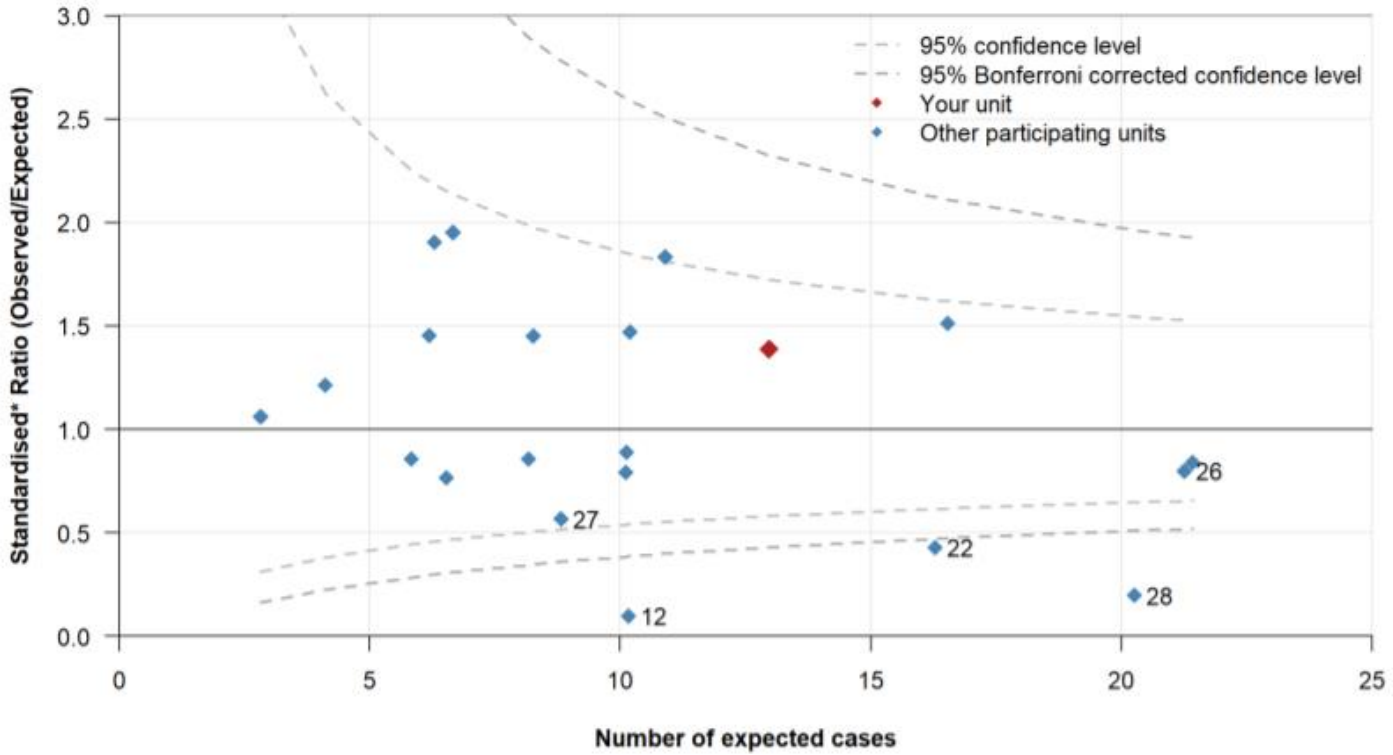
Babies born <28 weeks GA and survived >2 days



AUSTRALIAN & NEW ZEALAND NEONATAL NETWORK

Late onset sepsis rate^, last four quarters 2020

Babies born at <32 weeks who survived to day 2^^



^Episodes per 1,000 patient days occurring during the period to first transfer or discharge to home, truncated to first 35 days of life.
^^Babies with unknown exposure time (missing date of transfer, death or discharge to home) are assumed to stay at least 35 days.

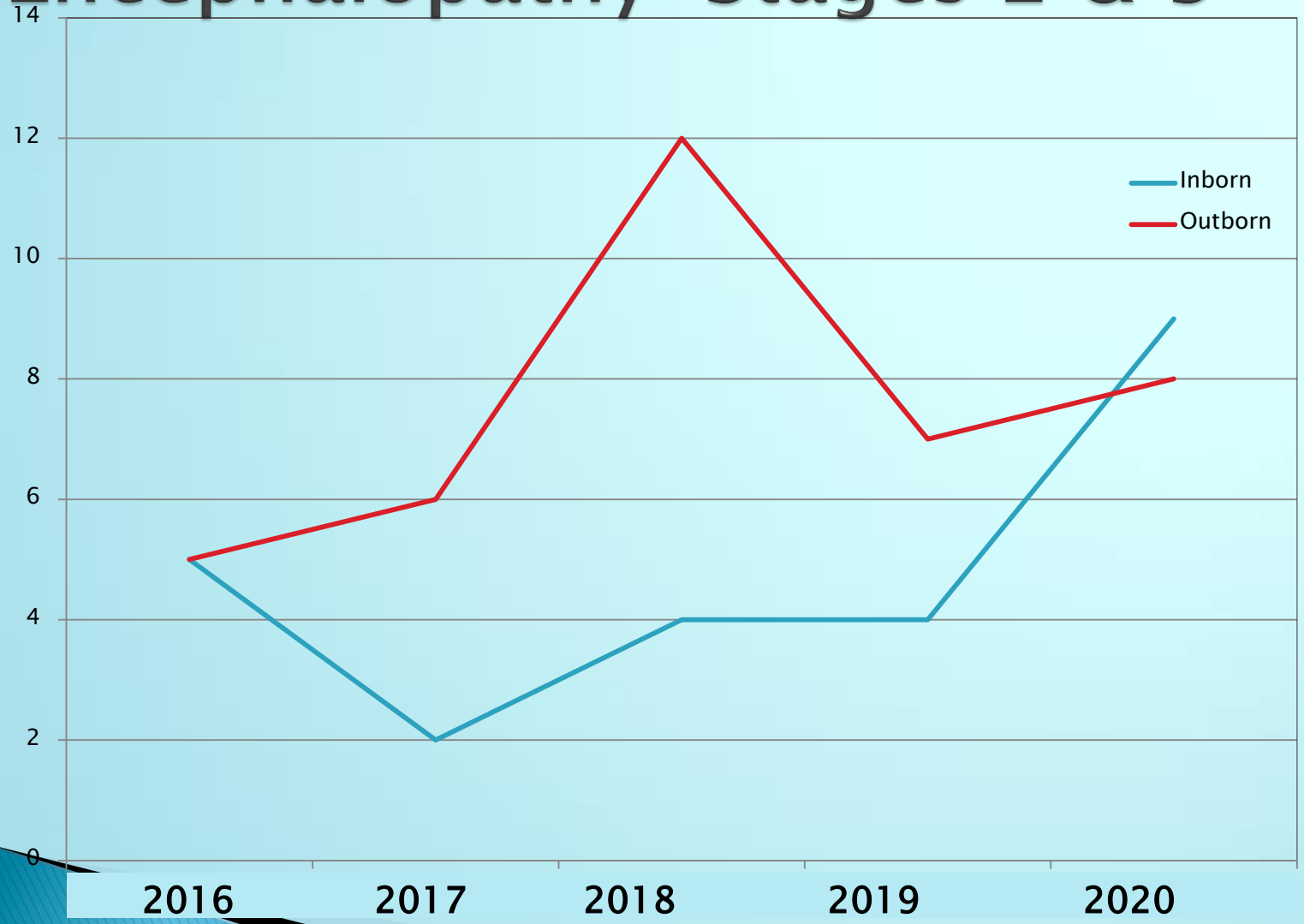
*Adjusted for GA, standardised to rates in Australian and NZ NICUs 2014-2018

AUSTRALIAN & NEW ZEALAND NEONATAL NETWORK

Hypoxic Ischaemic Encephalopathy

- Perinatal hypoxic-ischaemic encephalopathy
  - a major cause of death and disability worldwide
  - range of underlying causes – pre- and/or perinatal
  - Cause not always identifiable
- Neonatal encephalopathy
  - Syndrome of disturbed neurologic function
- Treatment option – therapeutic hypothermia
  - Must commence within 6 hours (impact on care esp. if outborn)

Hypoxic-Ischaemic Encephalopathy Stages 2 & 3

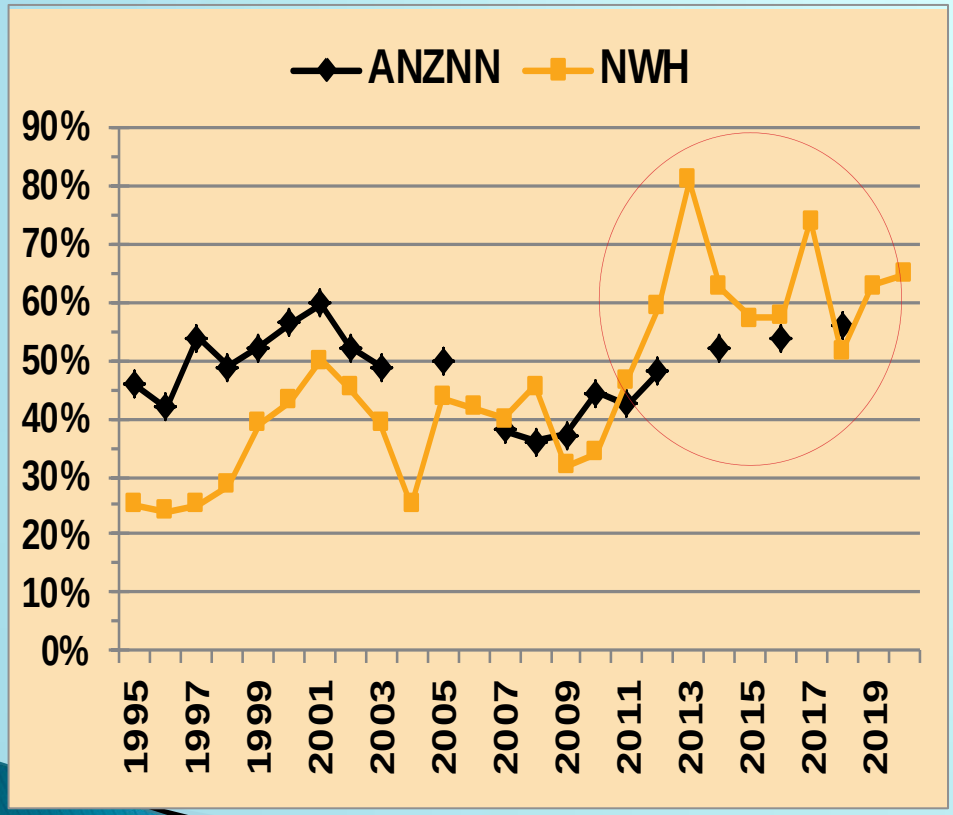


Chronic Lung Disease

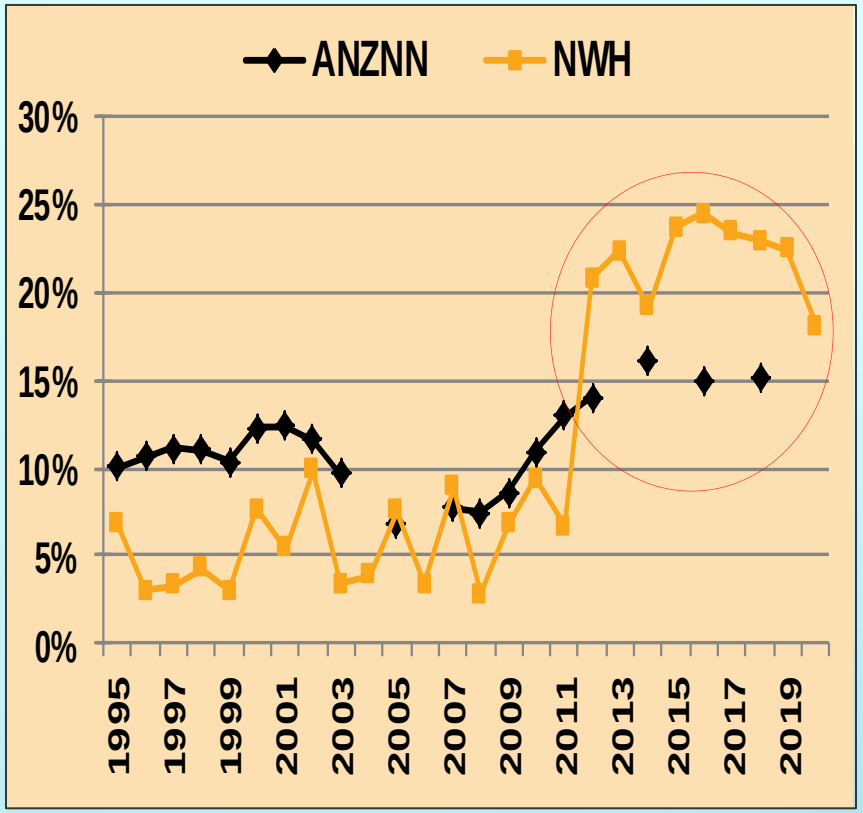
- Bronchopulmonary dysplasia (BPD)
  - chronic respiratory disease
  - associated with premature birth
  - primarily affects infants born at less than 28 weeks' gestational age
  - commonest serious complication of prematurity

Chronic Lung Disease

24-27weeks 1995-2020

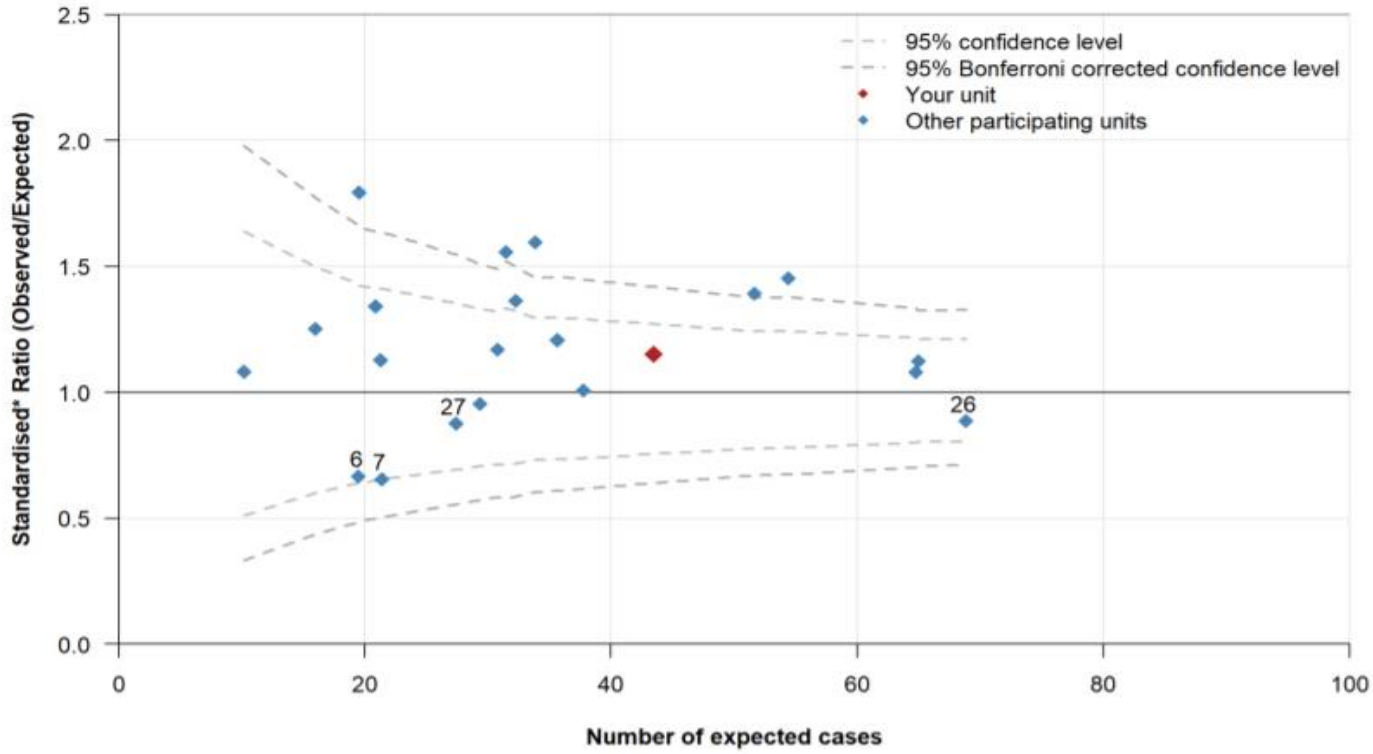


28-31weeks 1995-2020



Chronic lung disease, last four quarters

Babies born at <32 weeks and survived to 36 weeks PMA



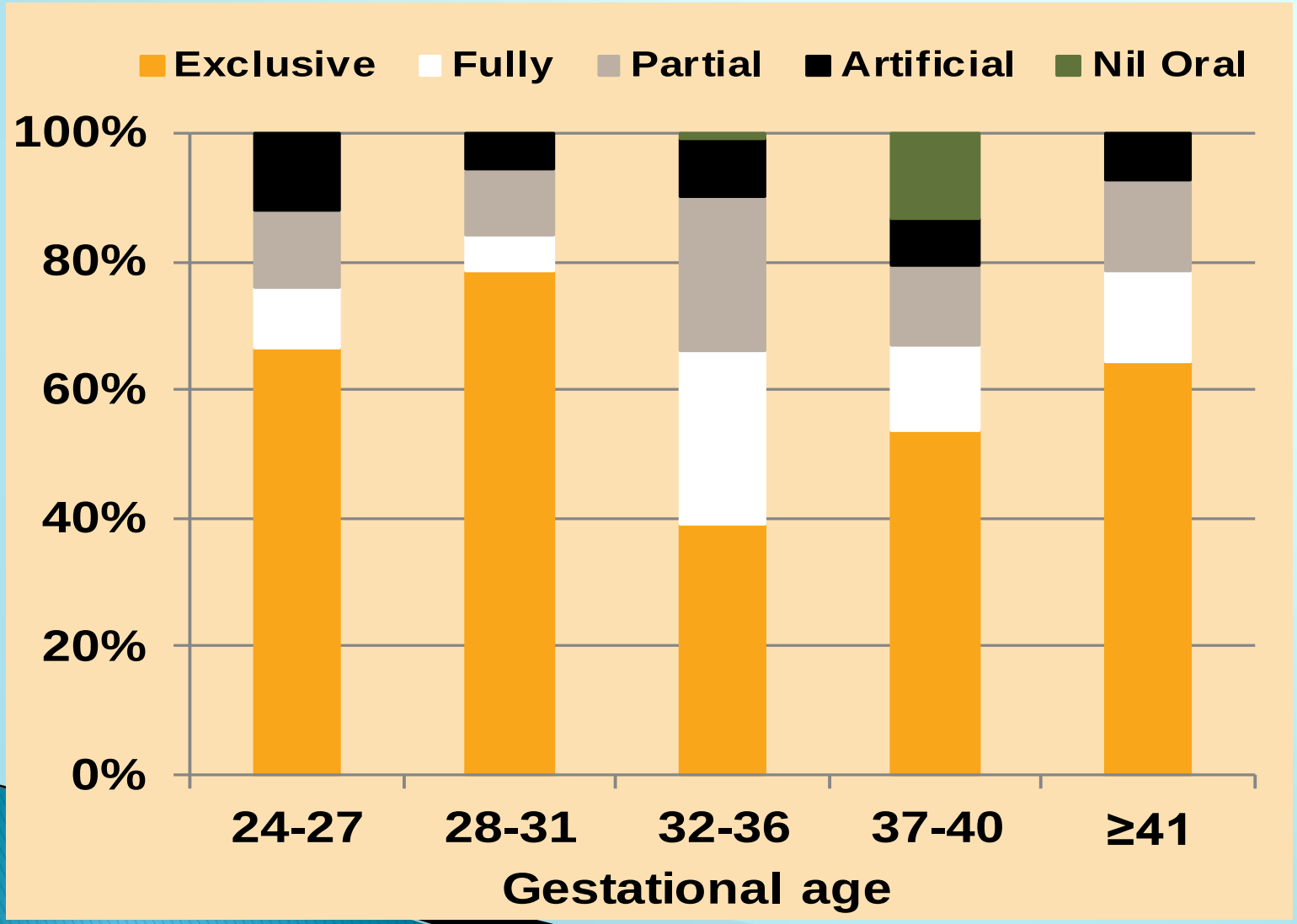
AUSTRALIAN & NEW ZEALAND NEONATAL NETWORK

*Adjusted for GA, standardised to rates in Australian and NZ NICUs 2014-2018

Feeding

Breast feeding

Method of feeding at discharge from NICU by GA 2020



Breast milk at discharge to home 2019

Population: Babies born at specified GA group and survived to home

	ANZNN	YourUnit
Numerator: Babies receiving breast milk at discharge to home and born at <28 weeks GA Denominator: All babies in population	64.5%	77.1%
Numerator: Babies receiving breast milk at discharge to home and born at 28-31 weeks GA Denominator: All babies in population	77.1%	85.4%

AUSTRALIAN & NEW ZEALAND NEONATAL NETWORK

Challenges

- Late Onset Sepsis – CLABSI and non-CLABSI
  - Ongoing work in this area for a few years
- Chronic Lung disease
  - Further discussion this afternoon
- HIE numbers
  - Being reviewed internally currently
- High occupancy
  - Short and medium term solutions

Future directions

- Challenge of looking after sicker babies, with more complex needs
- Small rise in numbers of extremely preterm babies (23-24 weeks GA)