Highlights of 2021 Newborn Annual Clinical Report

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Highlights of 2021 Report

- 812 Admissions
  - 692 inborn; 120 outborn
- Commonest reasons for admission
  - Prematurity (36%), respiratory distress (30%)
- Average occupancy 35 (87.5%)

NICU Monthly Occupancy 2019-2021

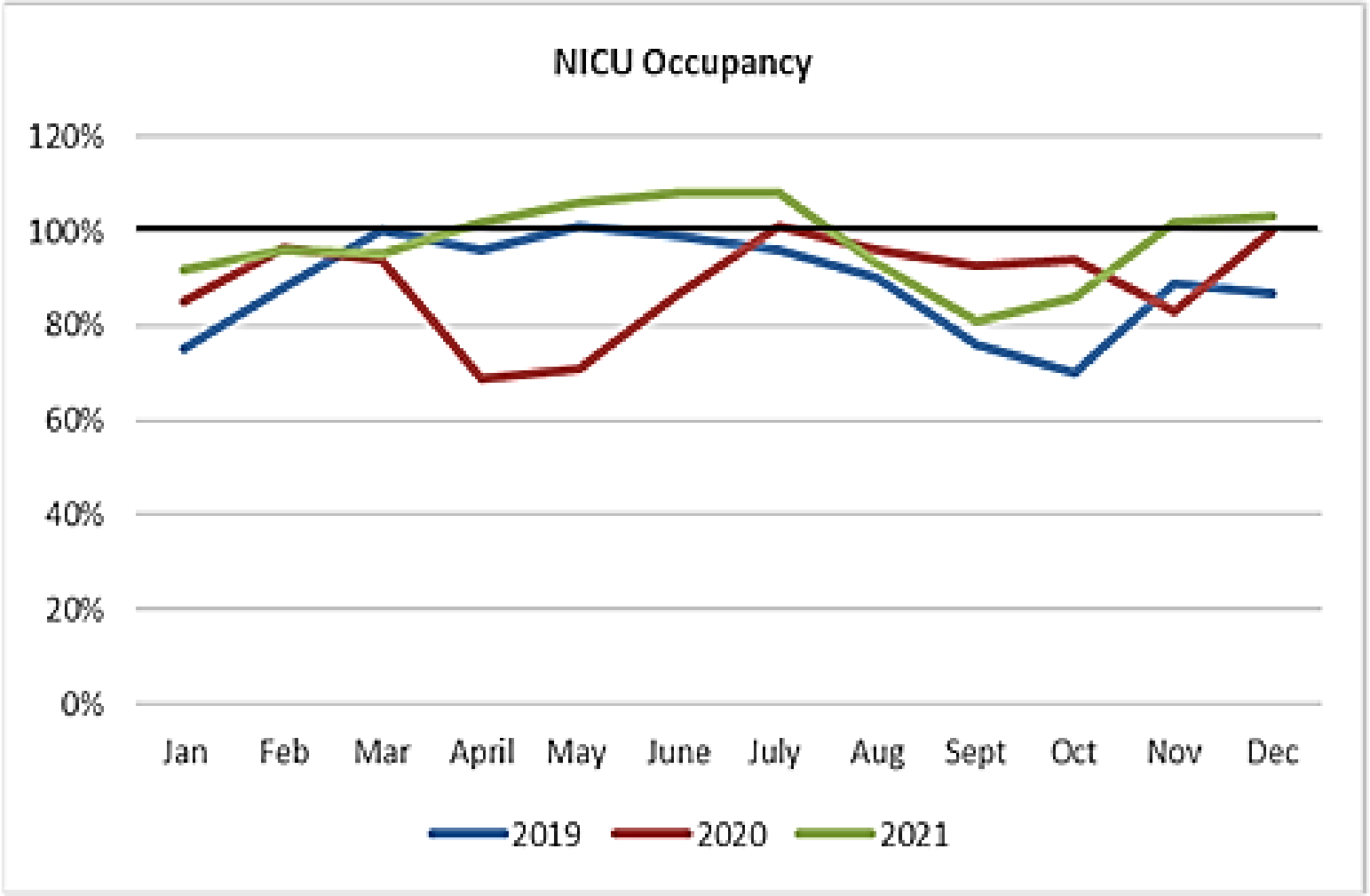


Figure 116: Admissions to NICU of <1500g pēpi (VLBW) by place of birth 1996-2021 (outborn includes BBAs)

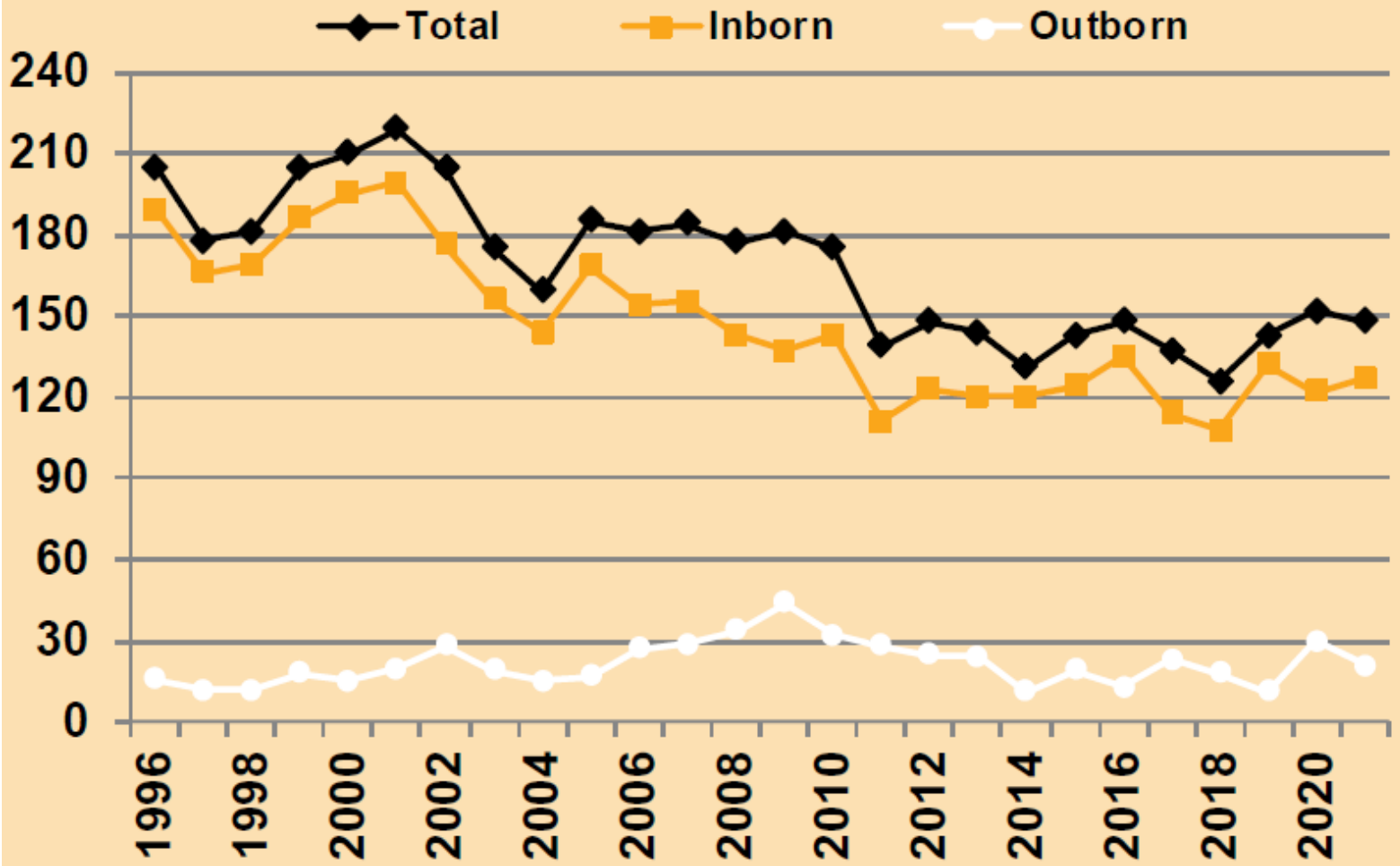
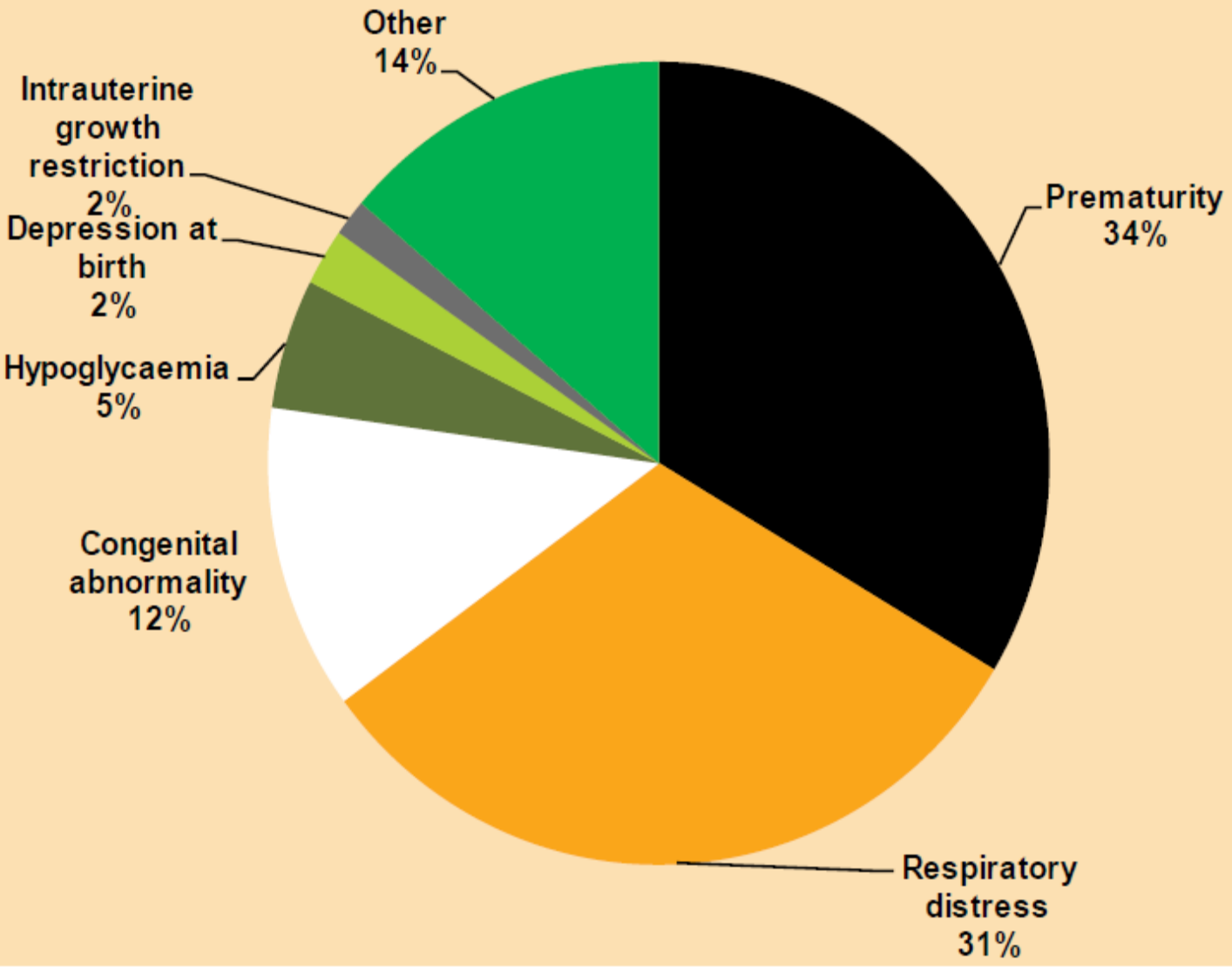


Figure 119: Reasons for admissions to NICU 2021



Highlights

- Survival
- Respiratory Support Use
- Chronic Lung Disease

Survival

Figure 147: Neonatal survival (0-28 days) of ≤1500g inborn live births NWH 1959-2021

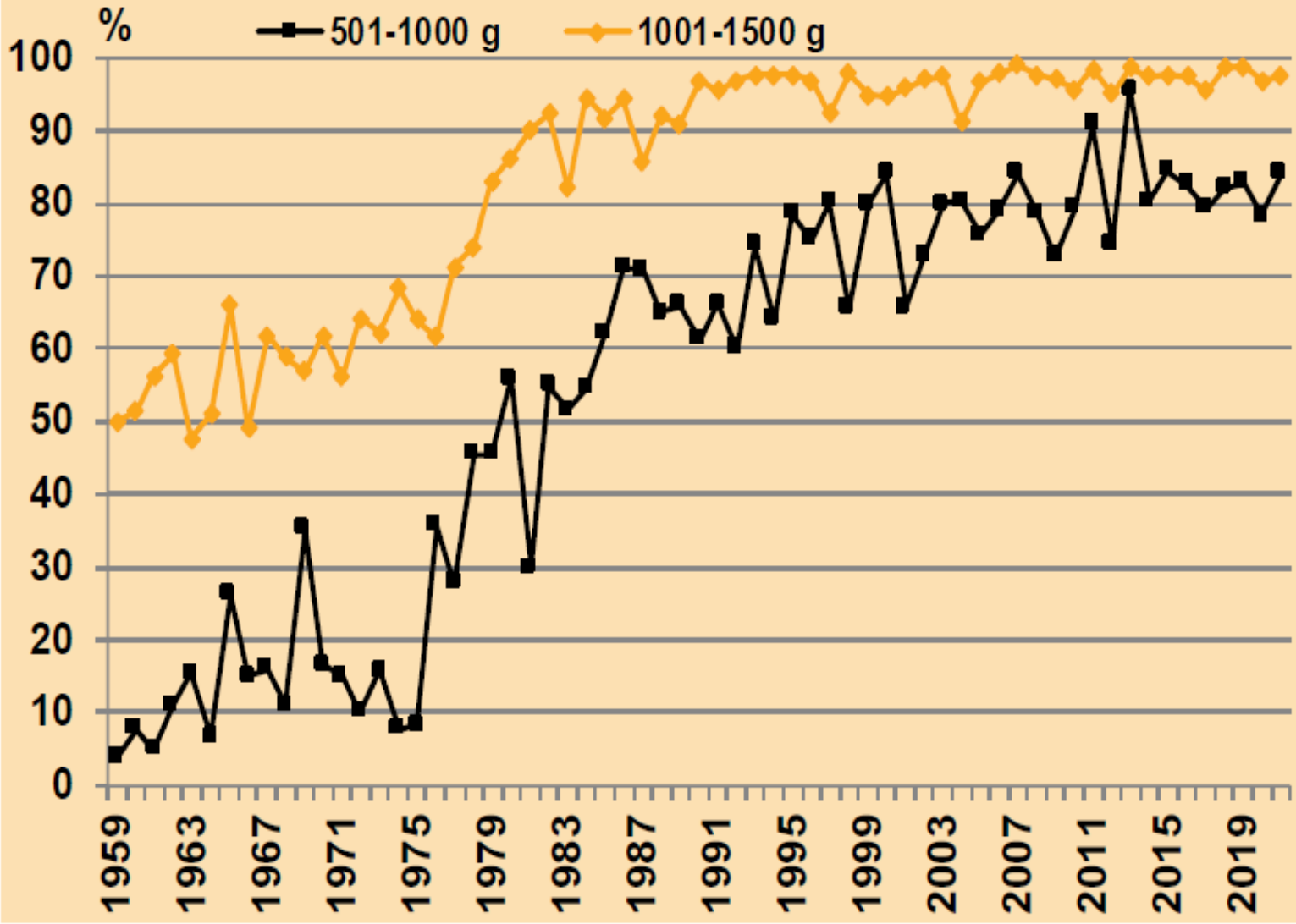


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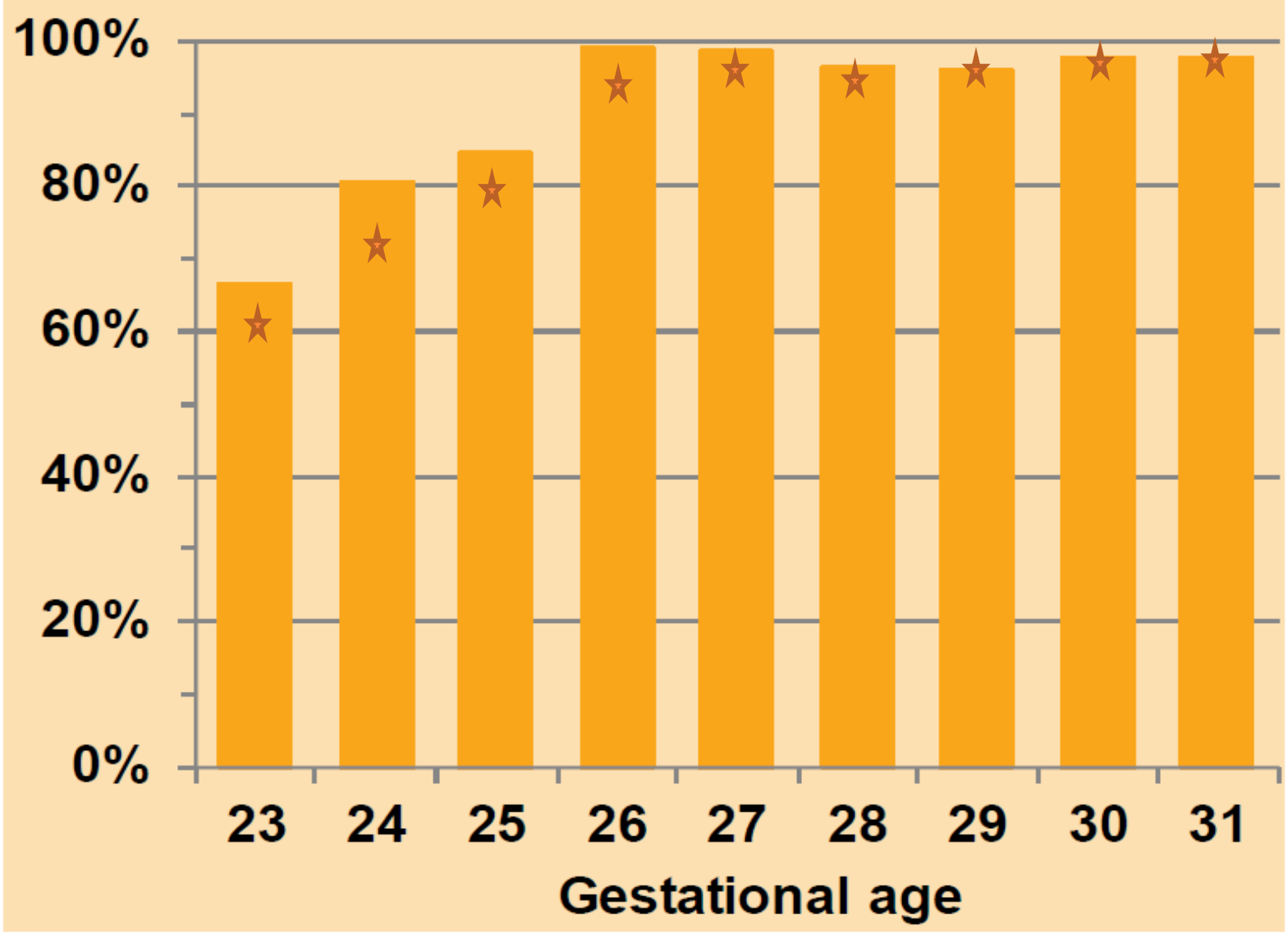
Figure 150: Survival of live inborn pēpi admitted to NICU 2011-2021 (n=1373)



Respiratory Support Use

Figure 130: Median days on any ventilation NWH 1995-2021

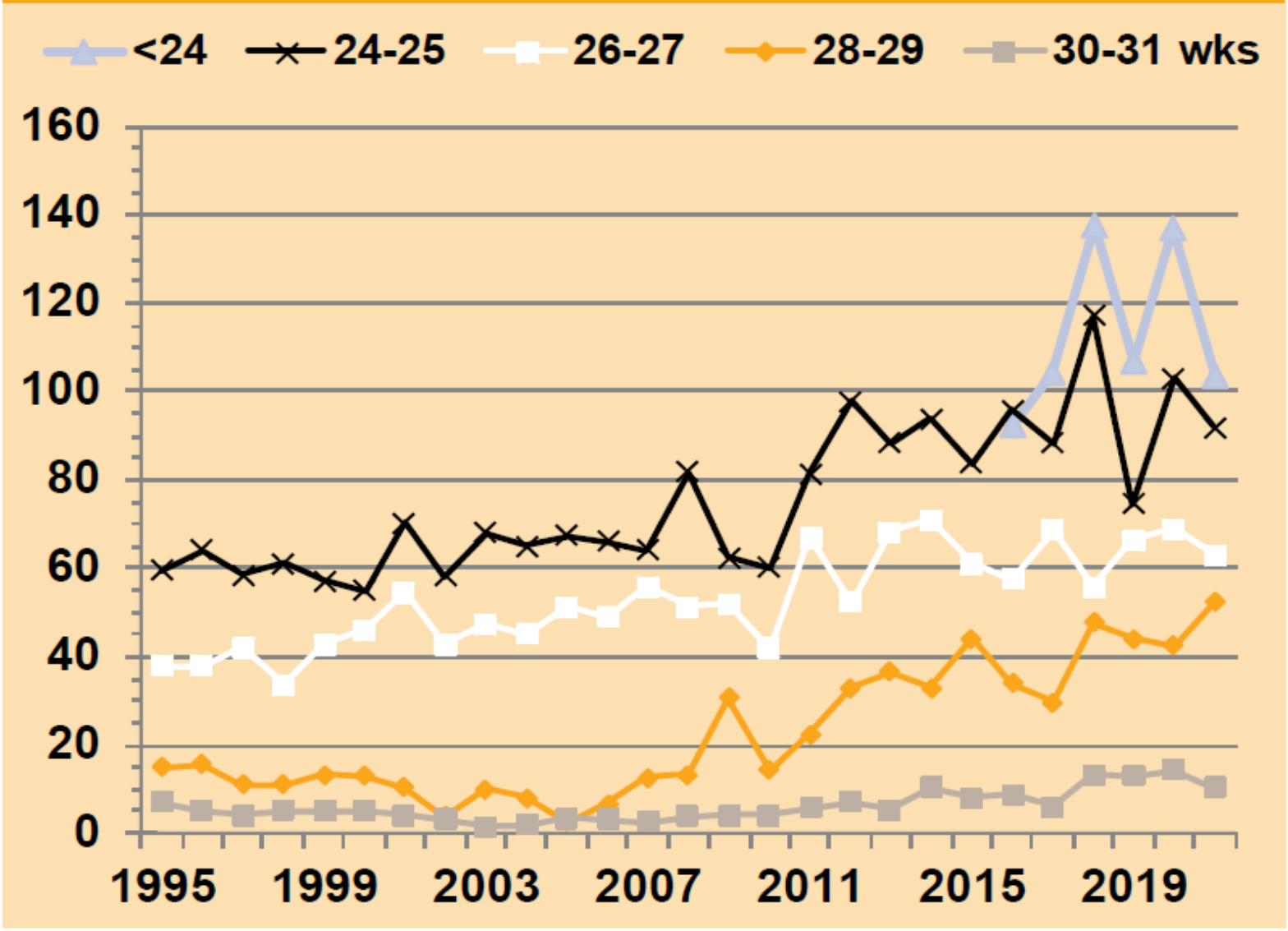


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Figure 128: Median days on IPPV NWH 1995-2021

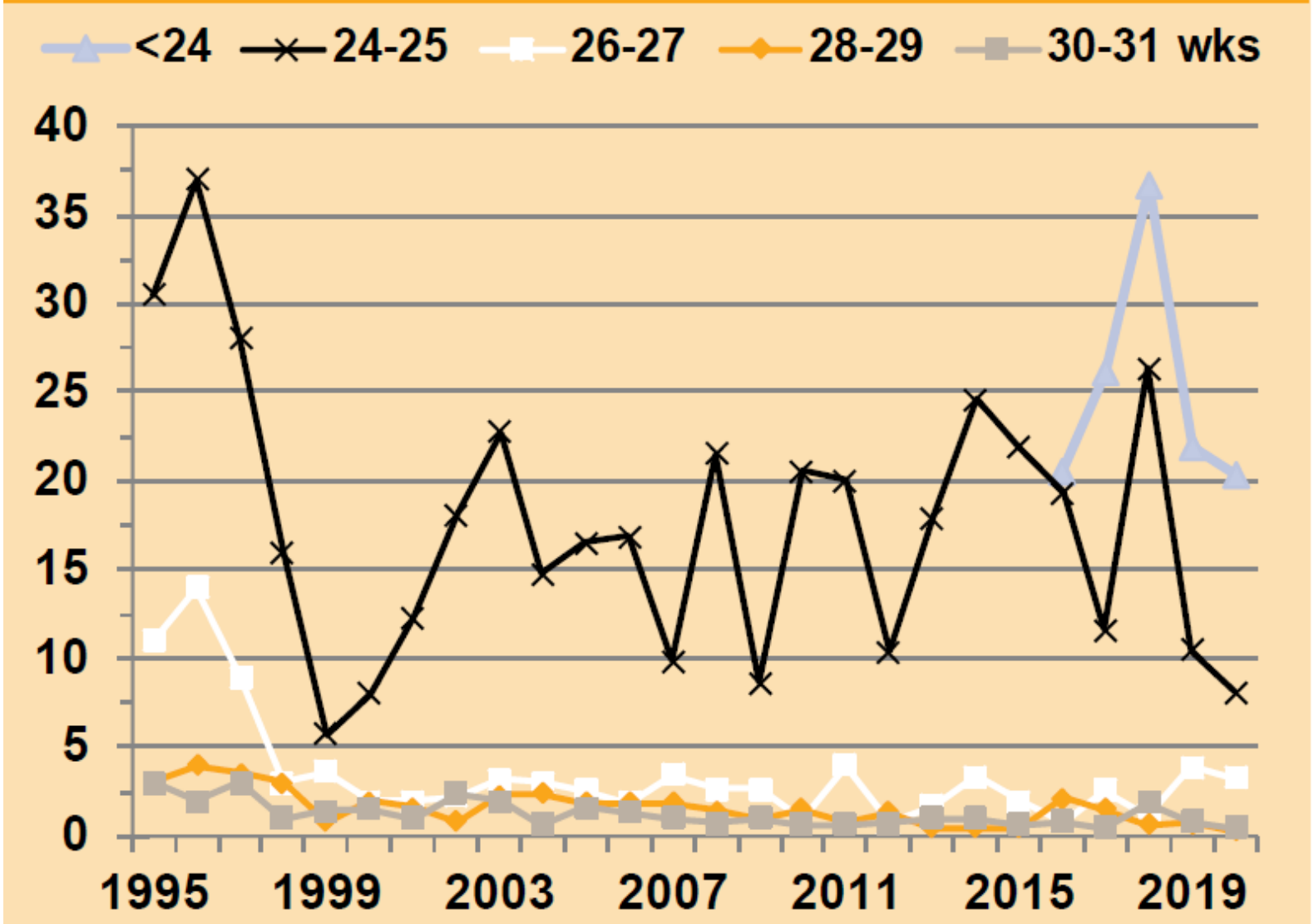

Figure 129: Median days on CPAP NWH 1995-2021

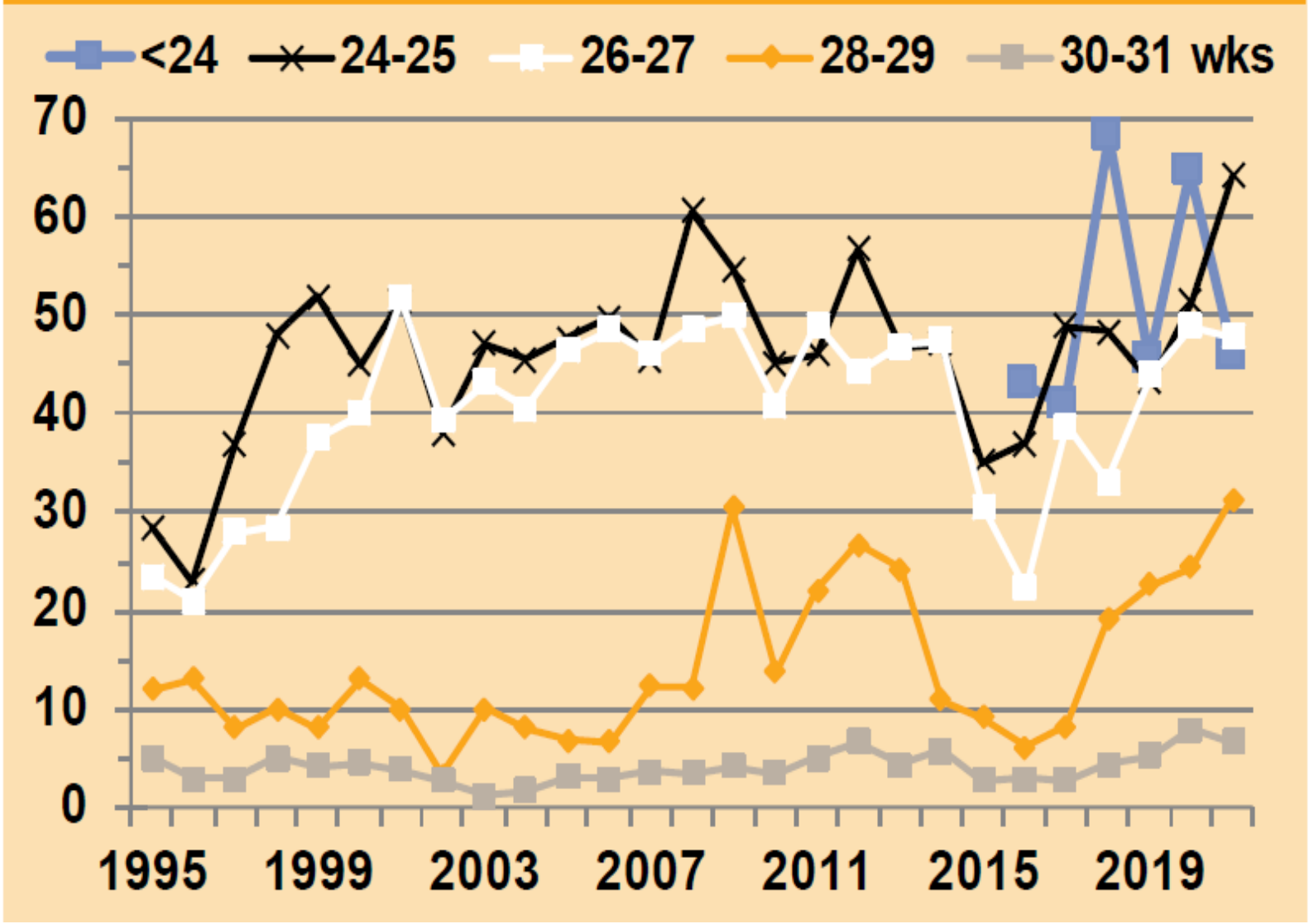

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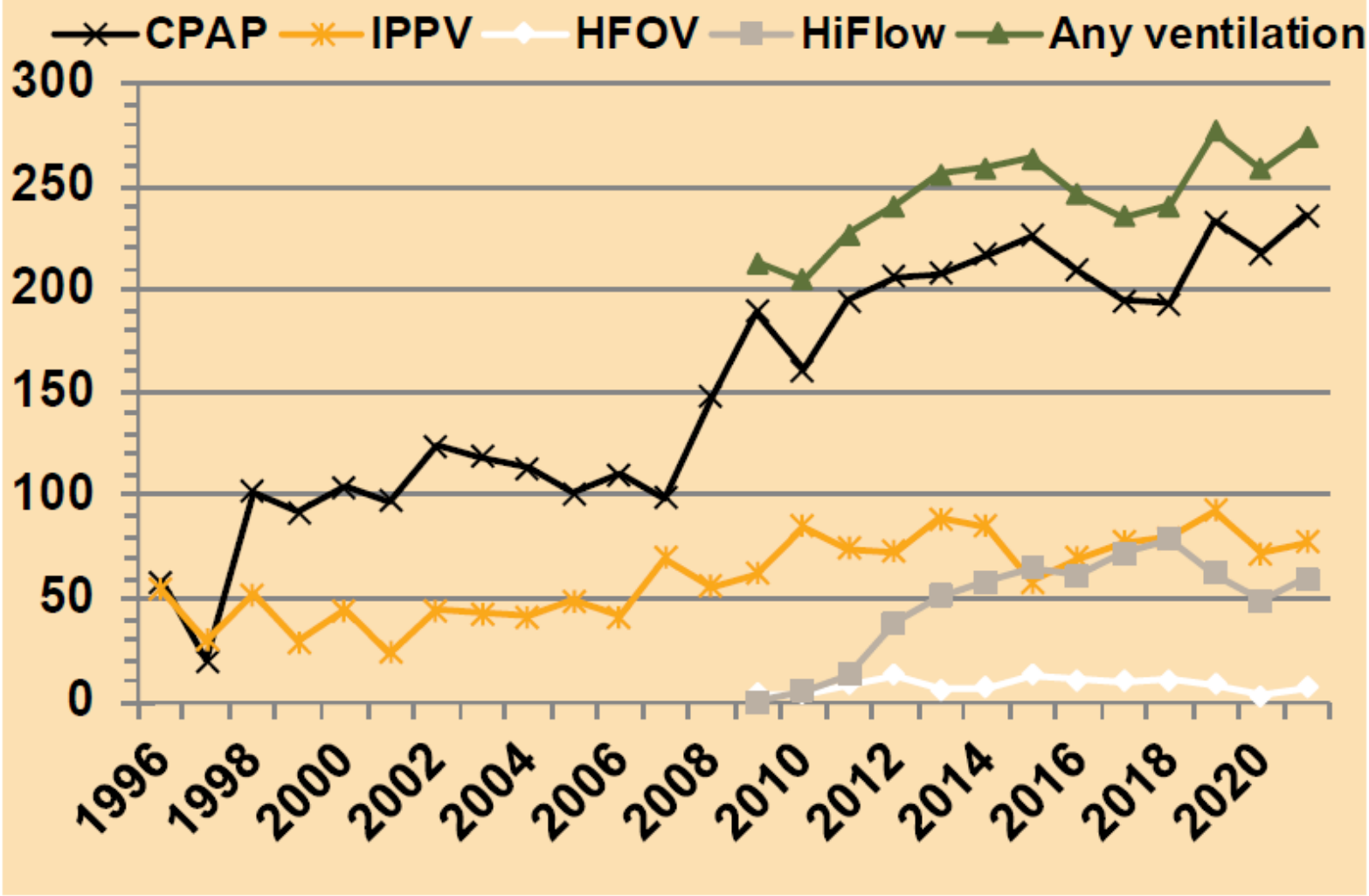
Figure 146: Number of term and post term pēpi needing respiratory support (IPPV, HFOV, CPAP and HiFlow) NWH 1995-2021



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Chronic Lung Disease

Figure 155: Chronic lung disease at 24-27 weeks NWH 1995-2021

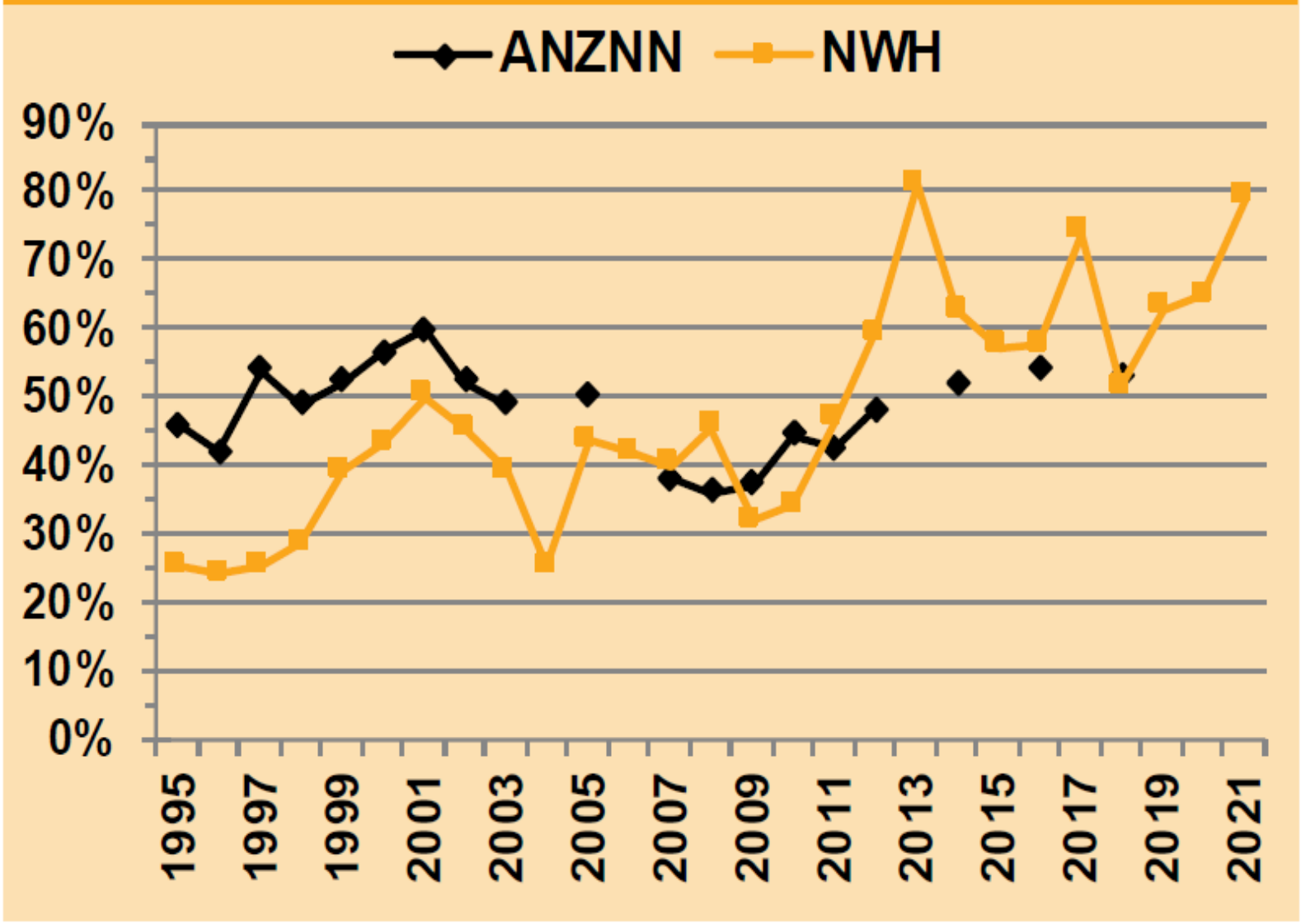
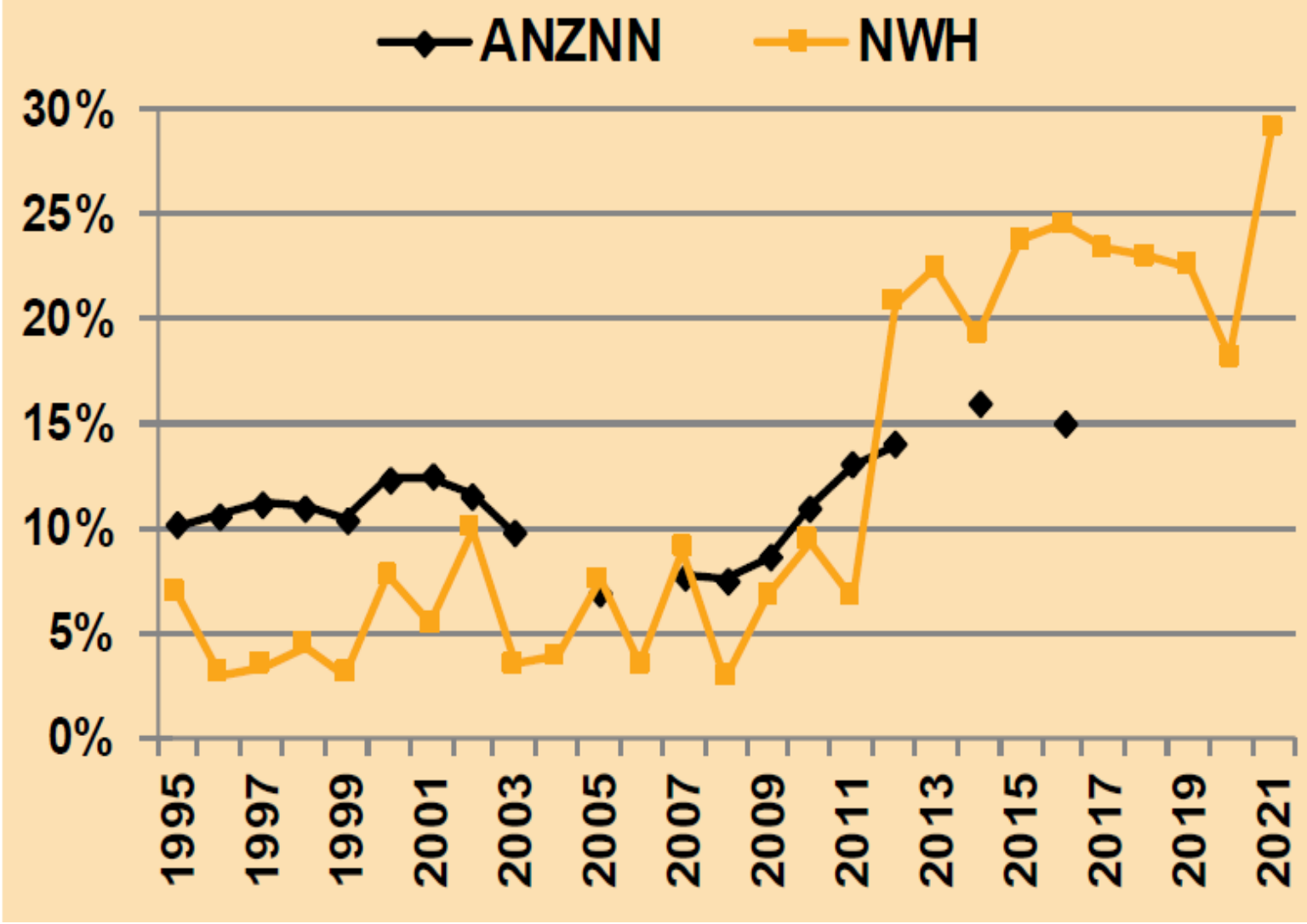


Figure 156: Chronic lung disease at 28-31 weeks NWH 1995-2021



Chronic Lung Disease

- Diagnosis is based on treatment
- Defined as oxygen or respiratory support requirement at 36 weeks PMA
- Newer definitions in use as patient population changed over the years
- Is it a useful outcome?
- Does it predict ongoing respiratory morbidity outcomes?

Respiratory Outcomes of SUPPORT trial J Pediatr. 2014 Aug;165(2):240-249.e4

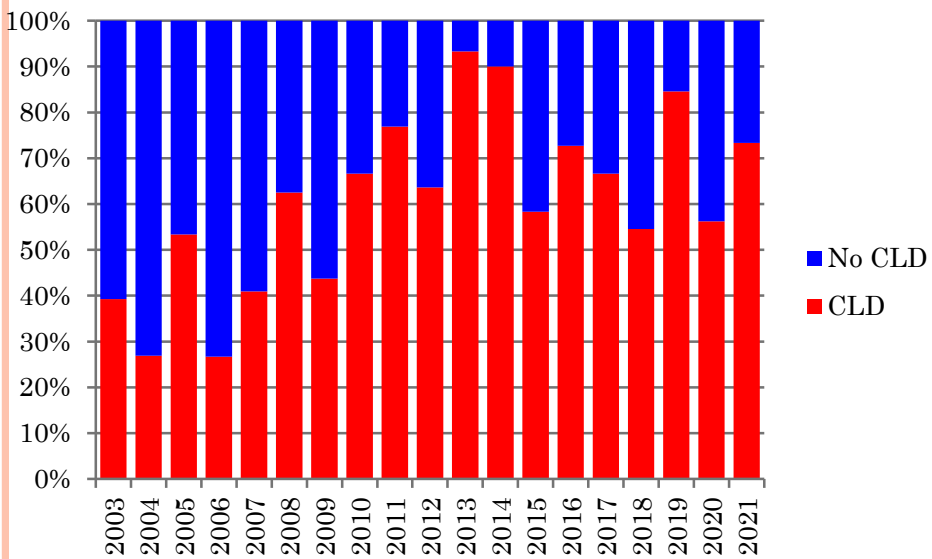
- Assessed respiratory outcomes at 6/12 intervals from discharge until 18-22 months
- 918 of the 922 eligible infants followed up
- Infants randomized to CPAP vs. intubation & surfactant
  - fewer episodes of wheezing without a cold (28.9% vs 36.5%; P<.05),
  - respiratory illnesses diagnosed by a doctor (47.7% vs 55.2%; P<.05), and
  - physician or emergency room visits for breathing problems (68.0% vs 72.9%; P<.05) by 18-22 months CA

SUPPORT TRIAL FOLLOW-UP

- Moderate/severe BPD a predictor of hospitalisation & chronic respiratory medication use but PPV for either outcome only 40% and NPV 70%
- BPD likely a short term surrogate outcome
- Good way of evaluating lung injury in the short term
- Poor predictor of long term respiratory morbidity

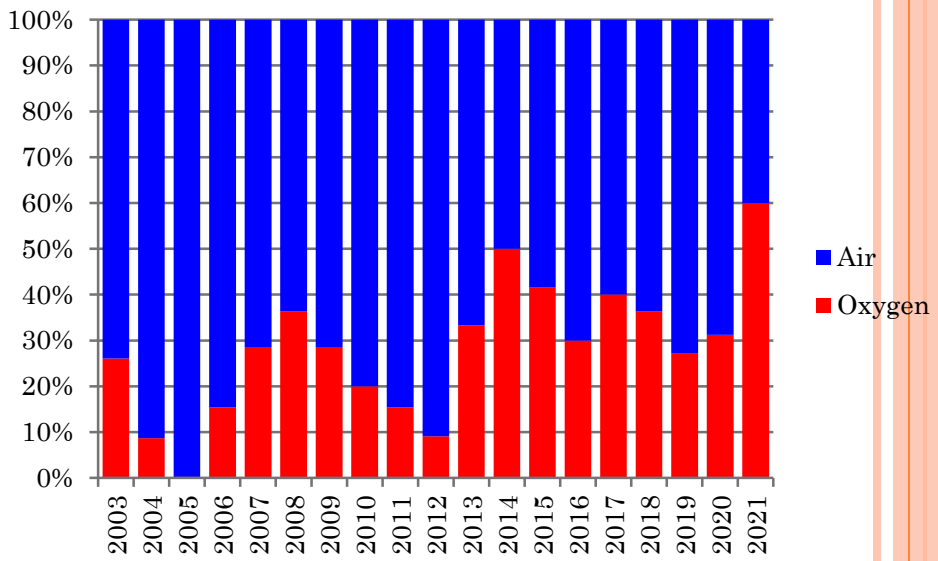
Support at 36wk in ANZNN 24-27wk babies discharged home from NICU

CLD in babies 24-27 weeks discharged home from NWH



- Increase in resp support use at 36 weeks over time
- Very high levels of support in recent years
- Note that numbers each year are fairly small: 10 to 28

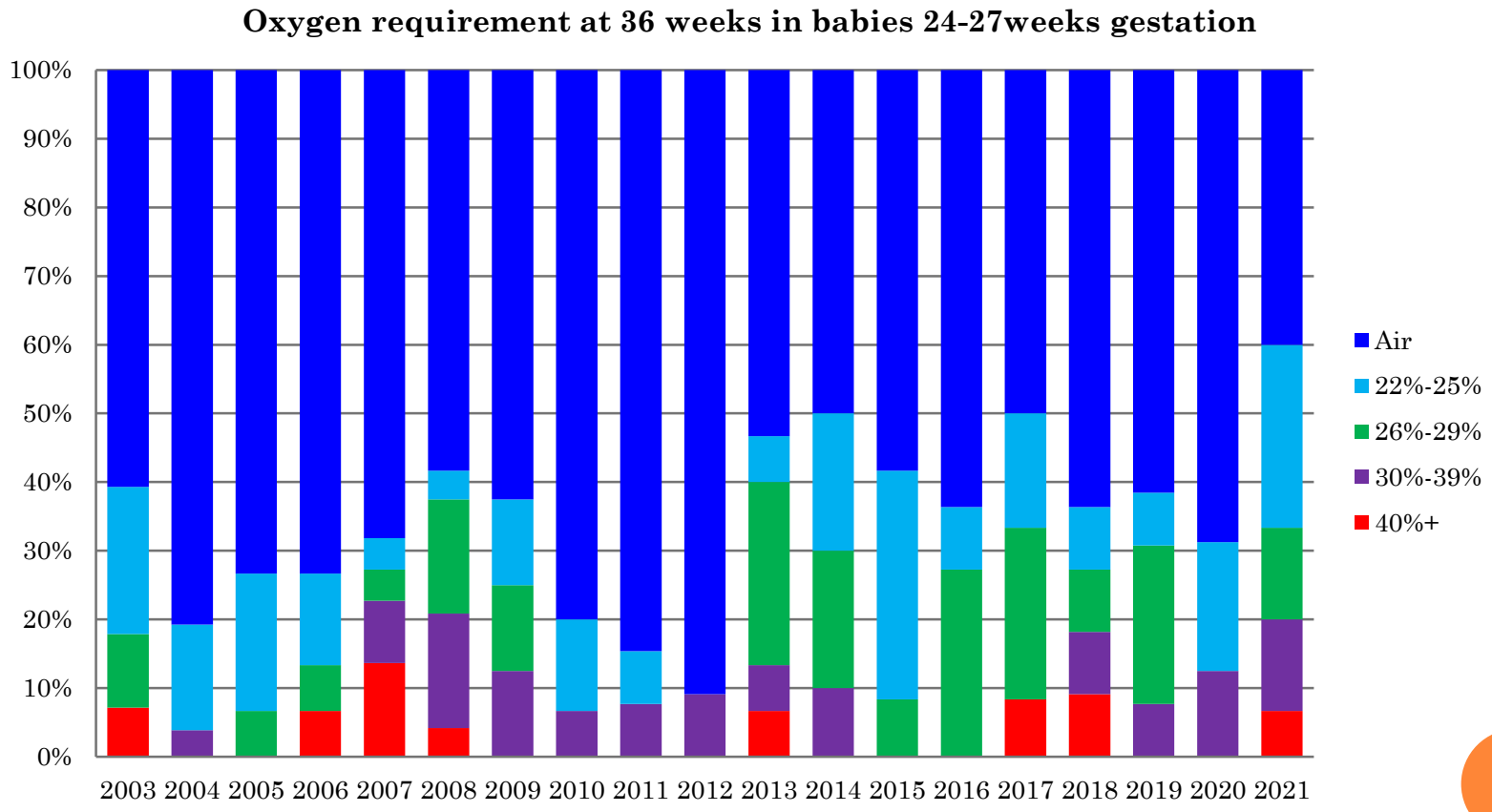
Oxygen at 36 weeks in babies 24-27 weeks discharged home from NWH



- Much lower use of oxygen at 36 weeks
- Smaller increase in use over time
- 2021 has high oxygen use – need to monitor trend

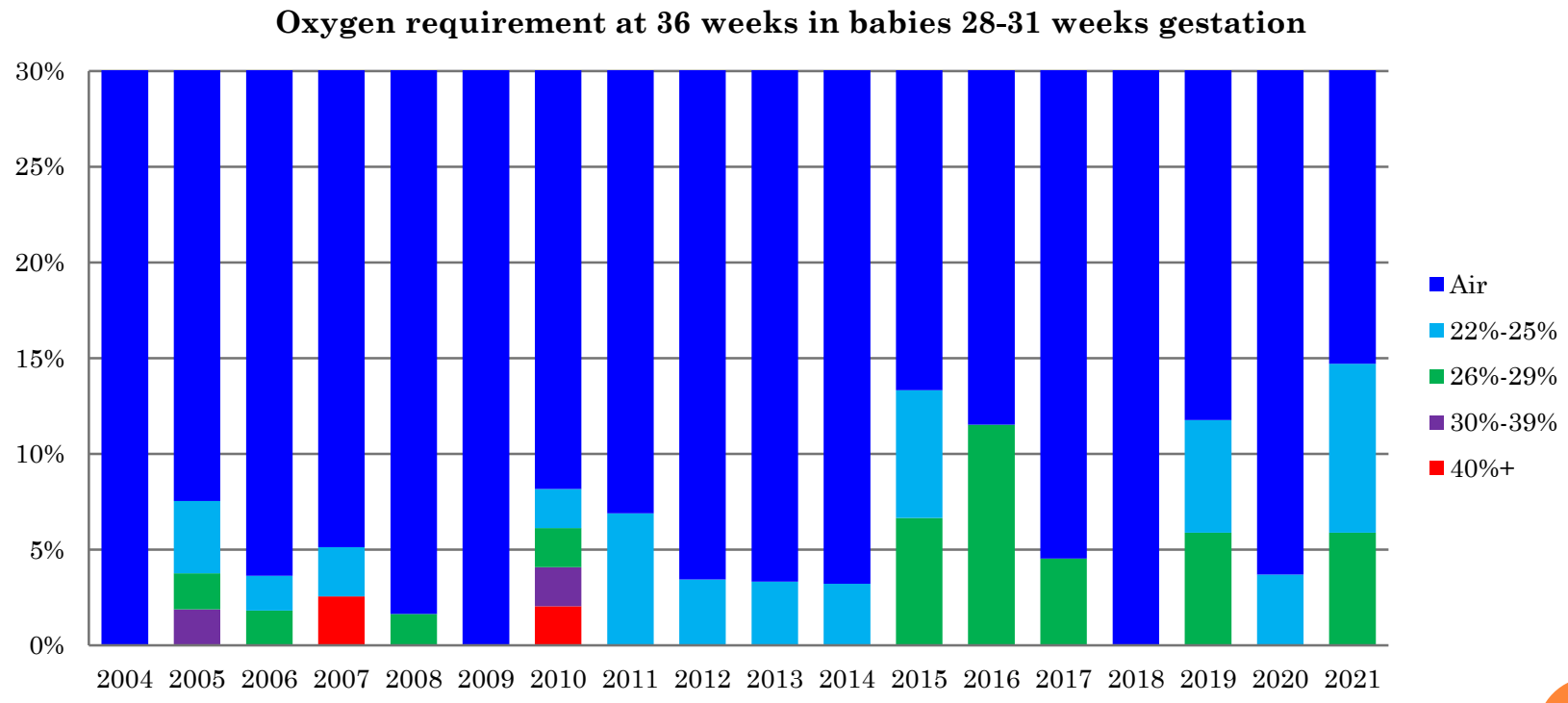
Oxygen requirement at 36wk in all ANZNN babies discharged home from NICU

- Most of increase over time is for babies receiving low concentrations of oxygen



Oxygen requirement at 36 wk in all ANZNN babies discharged home from NICU

- Unusual to need FiO_2 of 0.30 or more
- Most babies on oxygen receive <0.26



Transitional Care

- Opened mid-November 2021

Thank you, Simon Rowley

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