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National Institute for
Health and Care Research

Re-admission to hospital, *what do the figures tell us?*

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Bliss
for babies born
premature or sick

40 years
of change
for babies



British Association of
Perinatal Medicine



Baby Imogen* born at 22 weeks, weighing 500g

- Long stay in NICU
- Complications of prematurity
- Eventually discharged from NICU
- Unexpected deterioration, admitted to PICU
- Significant trauma throughout for family

*name changed for confidentiality

Case Study



Neonatal Care

- For preterm and sick babies after birth
- 195 neonatal units in the UK



“[PICU is like being] thrown into a different environment”

“You don’t expect it’ll happen [PICU admission] when they go home [from neonatal unit]”

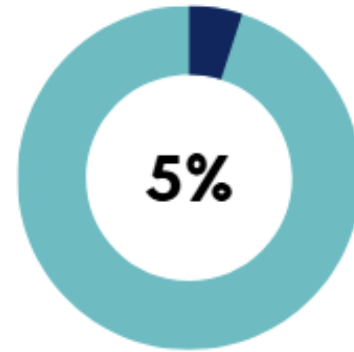
Paediatric Intensive Care

- Intensive care for children of all ages
- 30 PICUs in the UK

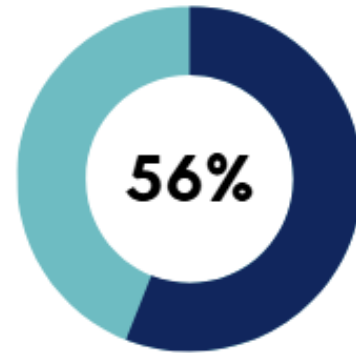


“[PICU is] 10 times more intense than neonatal”

Children born in England and Wales 2013-2018



Babies on neonatal units
admitted to PICU before
2 years of age

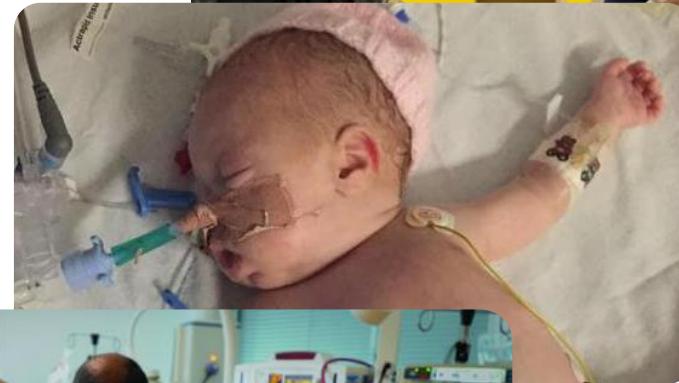


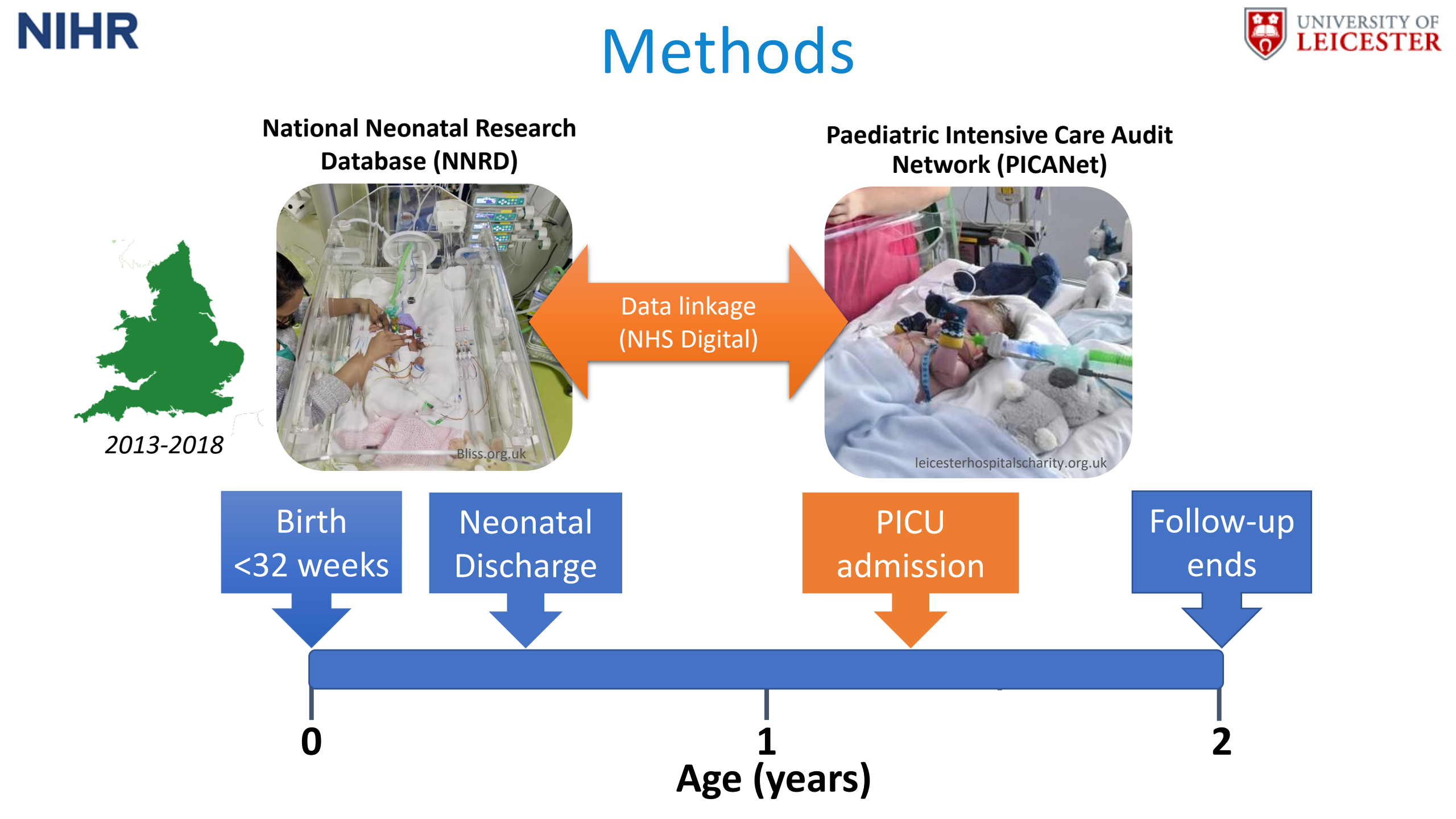
PICU admissions aged
under 2 years who had
neonatal admission



Research question:

When a preterm-born baby leaves neonatal care, what is the risk they will be admitted to PICU?



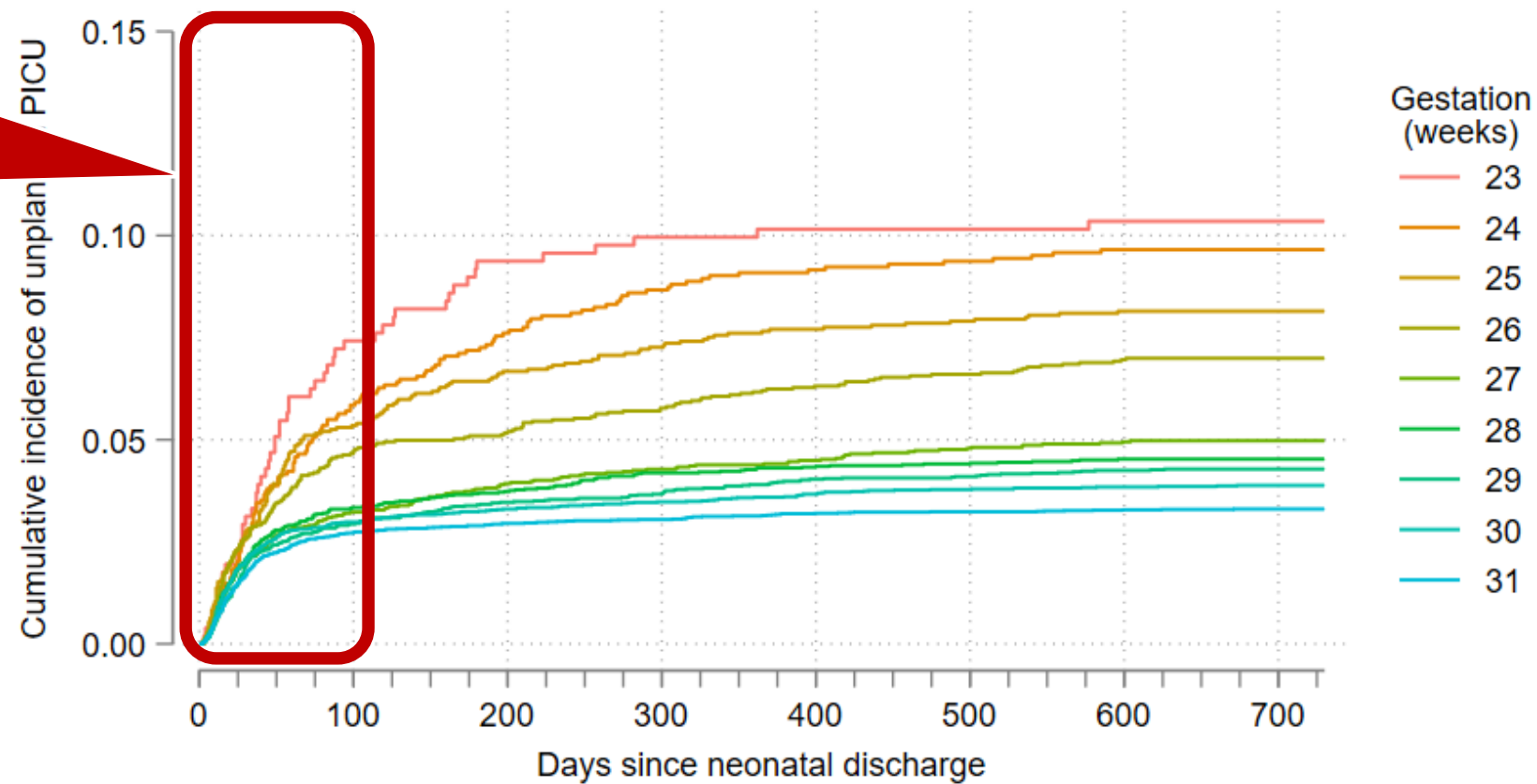


Gestational age at birth (weeks)	PICU admissions from home	Unplanned PICU admissions from home
	%	%
<24	13.6	10.2
24	12.4	9.7
25	10.1	8.1
26	9.0	7.0
27	6.3	5.0
28	5.6	4.5
29	5.1	4.3
30	4.5	3.9
31	3.7	3.3
Total	5.7	4.7

62% respiratory diseases

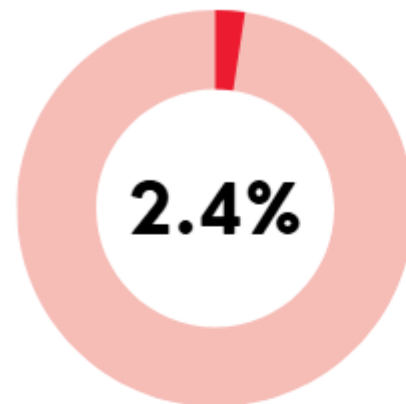
Kaplan-Meier – cumulative incidence of unplanned PICU admission

72% within 100 days of discharge

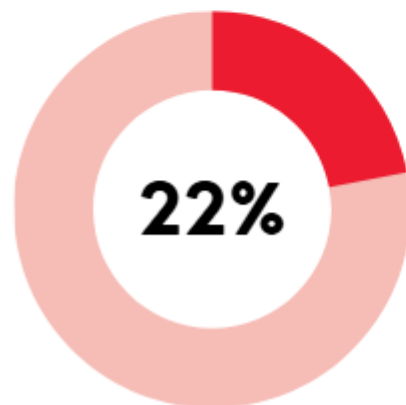


van Hasselt TJ, et al. Paediatric intensive care admissions of preterm children born <32 weeks gestation: a national retrospective cohort study using data linkage. *Archives of Disease in Childhood - Fetal and Neonatal Edition* 2024;**109**:265-271.

Outcomes in PICU



Mortality

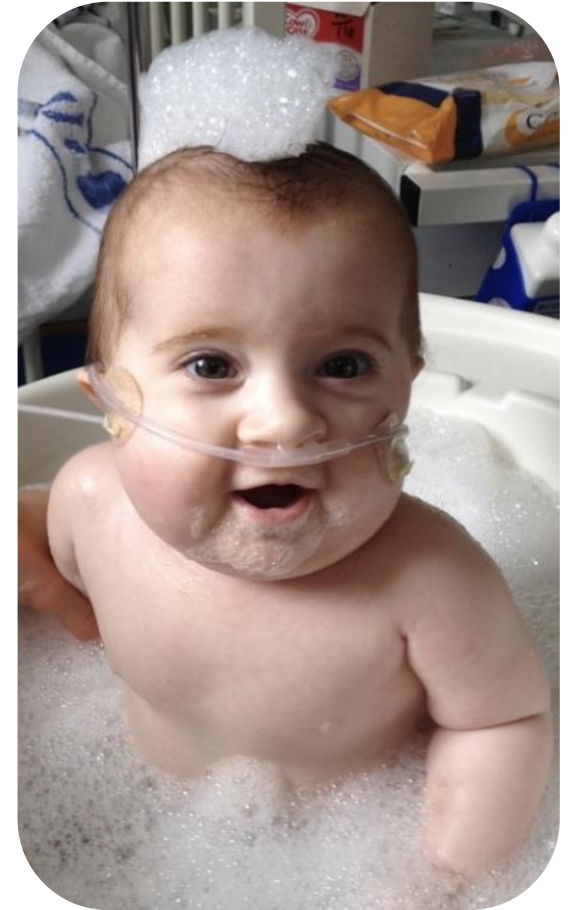


Readmission
to PICU
before 2nd
birthday



Conclusions

- Over 1 in 20 children born <32 weeks require PICU admission after neonatal discharge, most unplanned
- PICU admissions occur shortly after neonatal discharge
- Collaboration with families required to communicate this risk



Outputs

BAPM Working Group

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DRAFT: Transition from neonatal to paediatric care

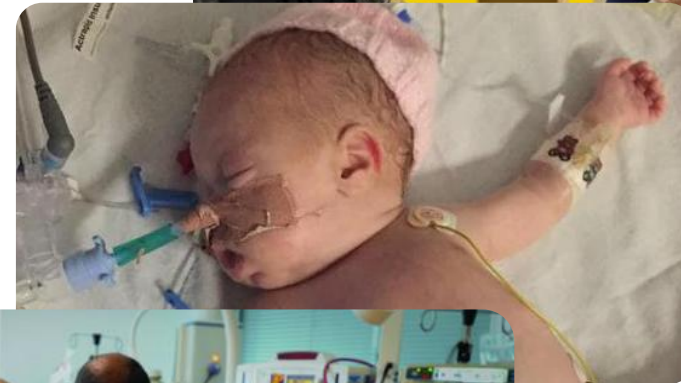
Transition from neonatal to paediatric care for babies with long term or complex healthcare needs. A DRAFT BAPM Framework for Practice.

📅 6 Oct 2025 💡 [DRAFT for Consultation](#)

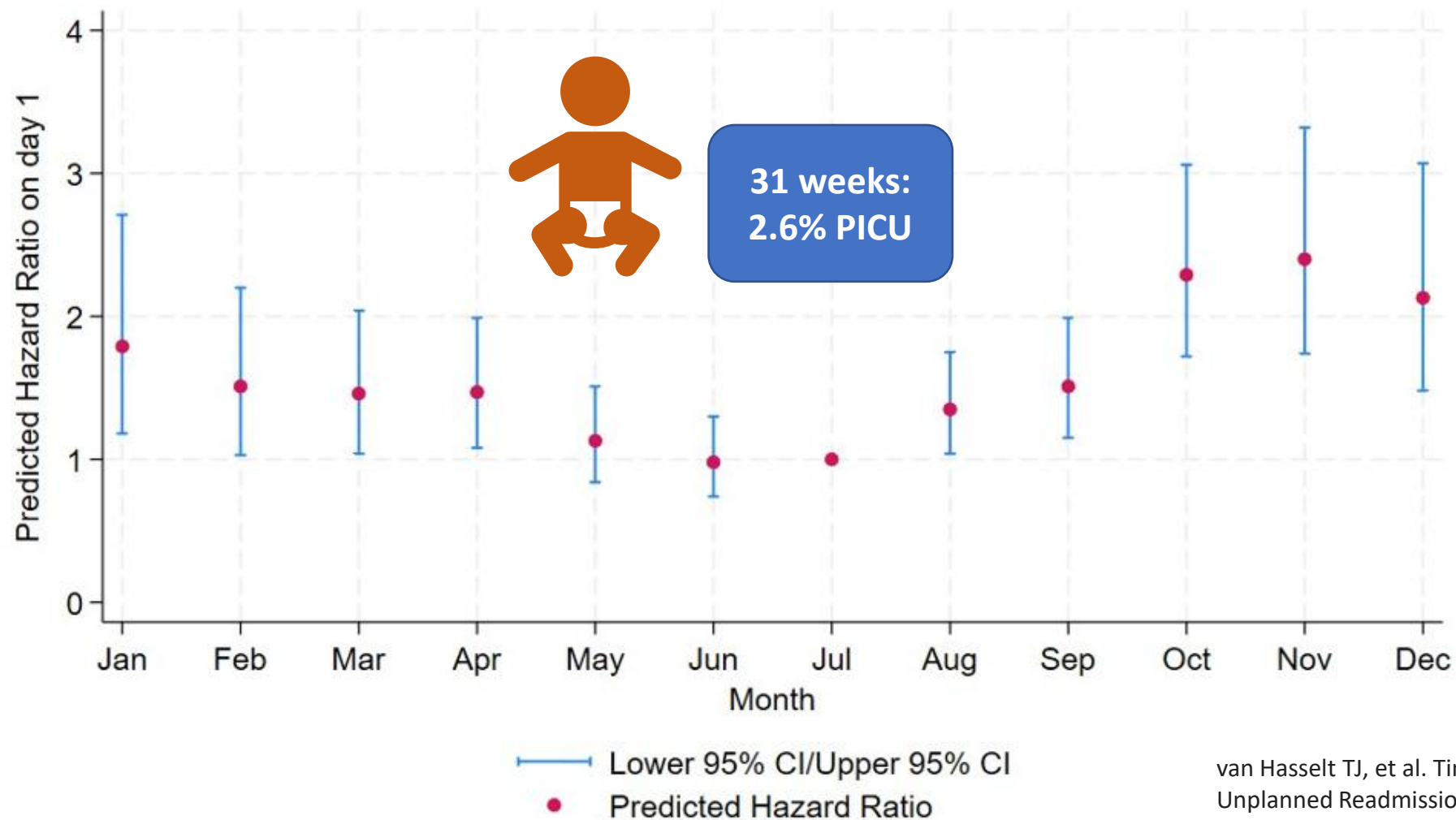




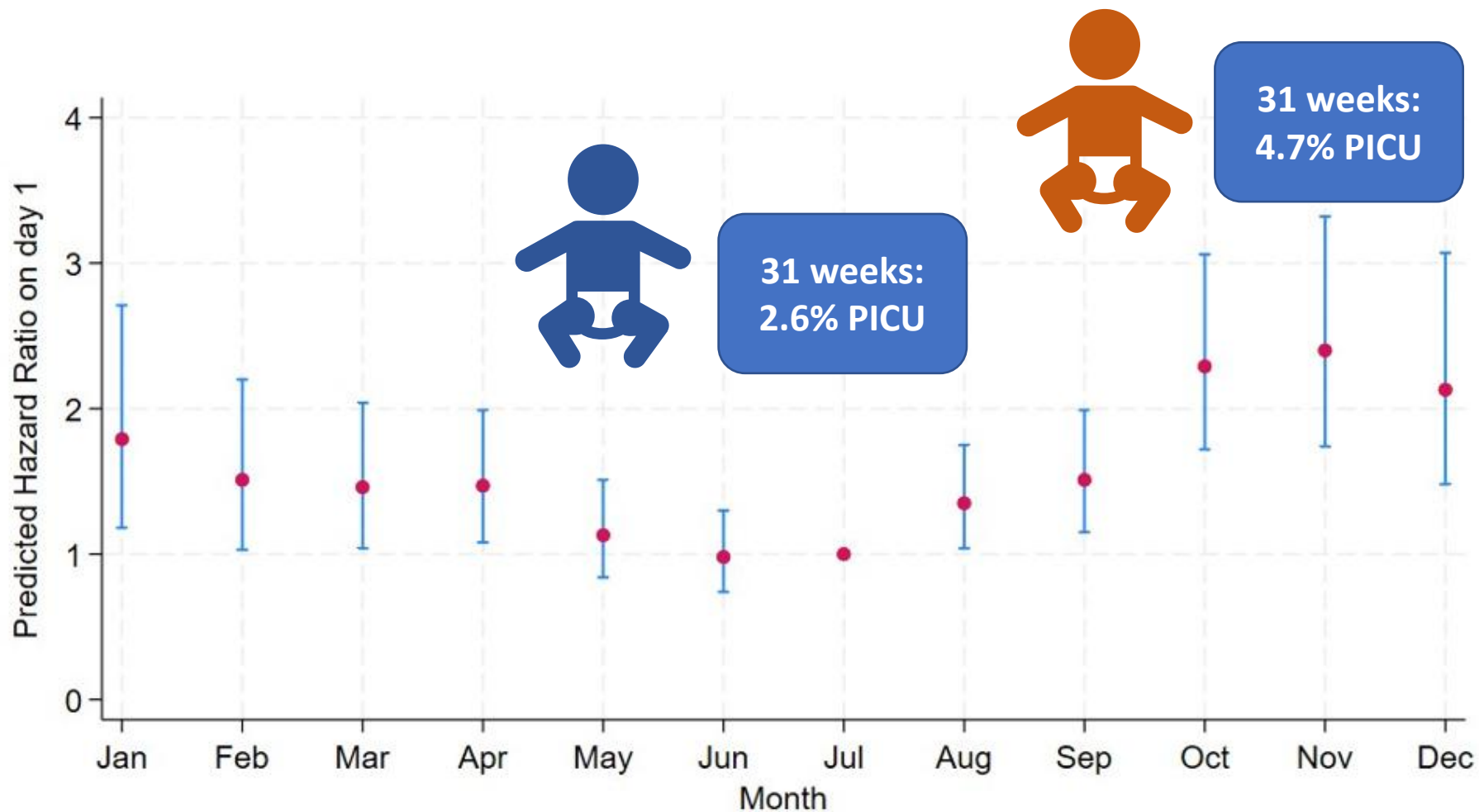
Does going home from
neonatal care in winter
instead of summer make
a difference?



Hazard ratios for unplanned PICU admissions from home by month of neonatal discharge



Hazard ratios for unplanned PICU admissions from home by month of neonatal discharge



— Lower 95% CI/Upper 95% CI
● Predicted Hazard Ratio

van Hasselt TJ, et al. Timing of Neonatal Discharge and Unplanned Readmission to PICUs Among Infants Born Preterm. JAMA Netw Open. 2024 Nov 4;7(11):e2444909.



What about hospital
admissions, not just
PICU?

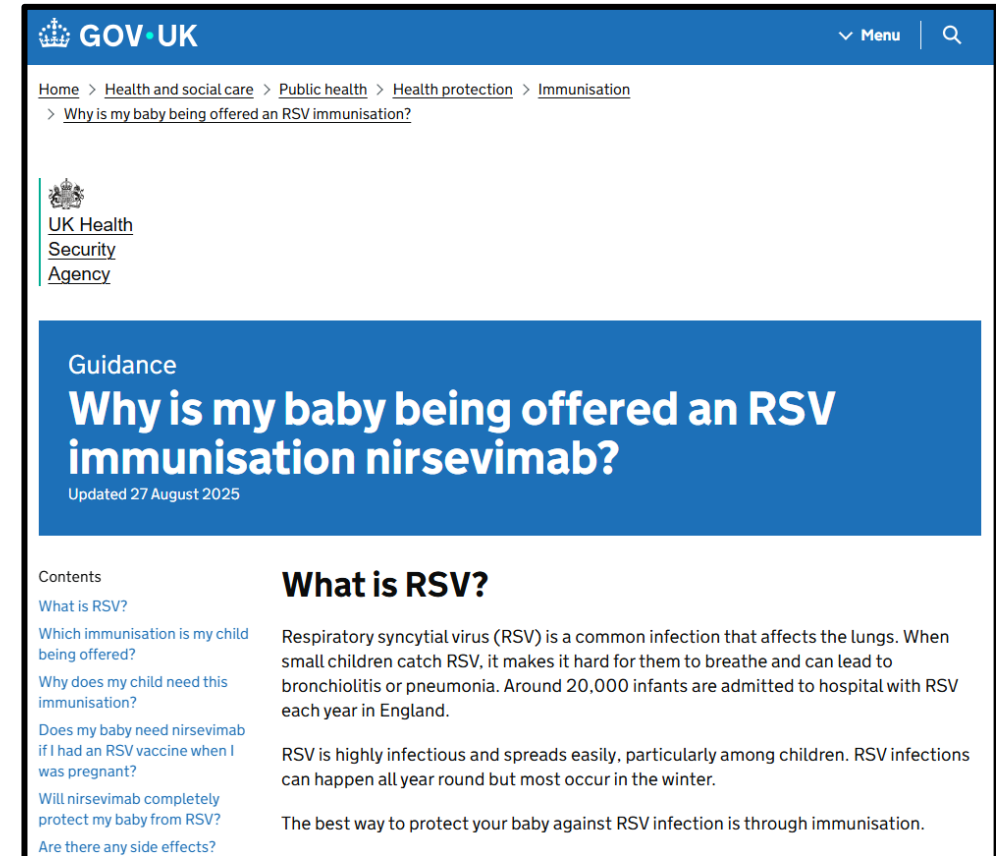


Results – hospital admissions

Gestational age at birth (weeks)	Any hospital admission	Any unplanned hospital admission	Any admission for respiratory problems
	%	%	%
<24	87	81	63
24	85	81	63
25	81	73	54
26	79	72	52
27	75	68	46
28	71	64	43
29	65	59	39
30	62	56	35
31	59	54	31
Total	67	61	40

Conclusions

- Most very preterm babies have at least 1 hospital admission after going home from neonatal care
- Discharge in autumn and winter carries the highest risk of PICU and hospital admission
- New **Nirsevimab** programme for very preterm babies should reduce this risk



The screenshot shows a GOV.UK page with a blue header. The breadcrumb trail is: Home > Health and social care > Public health > Health protection > Immunisation > Why is my baby being offered an RSV immunisation?. The UK Health Security Agency logo is visible. The main heading is 'Guidance Why is my baby being offered an RSV immunisation nirsevimab?' with a subtext 'Updated 27 August 2025'. A 'Contents' section lists links: 'What is RSV?', 'Which immunisation is my child being offered?', 'Why does my child need this immunisation?', 'Does my baby need nirsevimab if I had an RSV vaccine when I was pregnant?', 'Will nirsevimab completely protect my baby from RSV?', and 'Are there any side effects?'. The 'What is RSV?' section explains that RSV is a common lung infection affecting children, leading to bronchiolitis or pneumonia, with around 20,000 hospital admissions in England. It notes that RSV is highly infectious and spreads easily, especially among children, and can occur year-round but is more common in winter. The final sentence states that the best way to protect a baby is through immunisation.

GOV.UK

Home > Health and social care > Public health > Health protection > Immunisation > Why is my baby being offered an RSV immunisation?

UK Health Security Agency

Guidance

Why is my baby being offered an RSV immunisation nirsevimab?

Updated 27 August 2025

Contents

- What is RSV?
- Which immunisation is my child being offered?
- Why does my child need this immunisation?
- Does my baby need nirsevimab if I had an RSV vaccine when I was pregnant?
- Will nirsevimab completely protect my baby from RSV?
- Are there any side effects?

What is RSV?

Respiratory syncytial virus (RSV) is a common infection that affects the lungs. When small children catch RSV, it makes it hard for them to breathe and can lead to bronchiolitis or pneumonia. Around 20,000 infants are admitted to hospital with RSV each year in England.

RSV is highly infectious and spreads easily, particularly among children. RSV infections can happen all year round but most occur in the winter.

The best way to protect your baby against RSV infection is through immunisation.



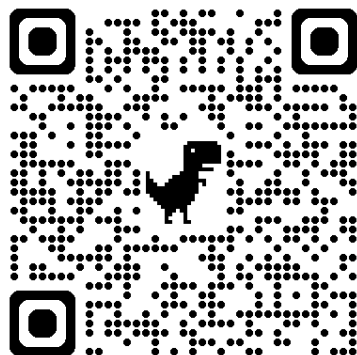
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Outputs

Infographics

- Co-designed with families and neonatal healthcare professionals
- For use in neonatal units to aid discussions around risk

<https://timms.le.ac.uk/preterm-birth-and-paediatric-intensive-care/>



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Bliss
for babies born
premature or sick

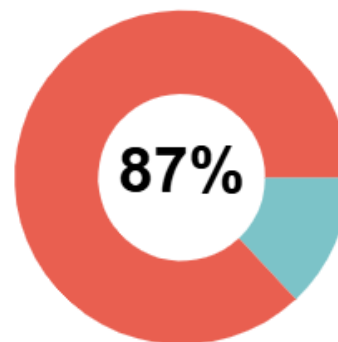
Some children may need PICU (Paediatric Intensive Care Unit) after going home

For children born at

Hospital admissions of very preterm children

Some children get sick and need admission to hospital after going home from the neonatal unit

For children born
before 24 weeks...



87 out of 100
children
do need hospital
admission

13 out of 100
children
do not need
hospital admission

On average children born before 24 weeks spend **8 days** in hospital between neonatal discharge and their 2nd birthday

Most hospital admissions are for **chest infections**.
The risk is higher in **autumn** and **winter**, and for children with long-term health conditions.

For **more information** about your baby's health, and avoiding viral illnesses, go to:
www.bliss.org.uk/parents/going-home-from-the-neonatal-unit



90 out of 100
children
do not need
admission to PICU

10 out of 100
children
need admission
to PICU

Ask your neonatal team if you want to know more about the PICU in your area

ions are for **chest infections**.
autumn and **winter**, and for children
term health conditions.

out your baby's
illnesses, go to:

[nts/going-
atal-unit](http://www.bliss.org.uk/parents/going-home-from-the-neonatal-unit)



own: unplanned PICU admissions before 2 years of age.
Paper available online: van Hasselt et al. Archives.

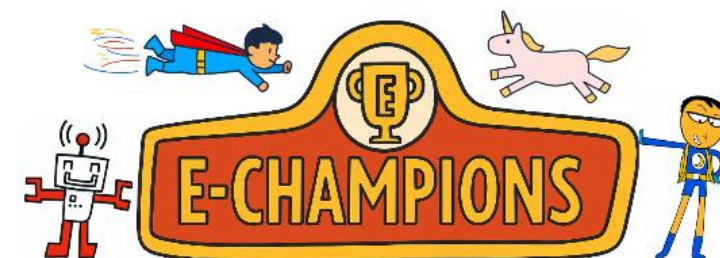
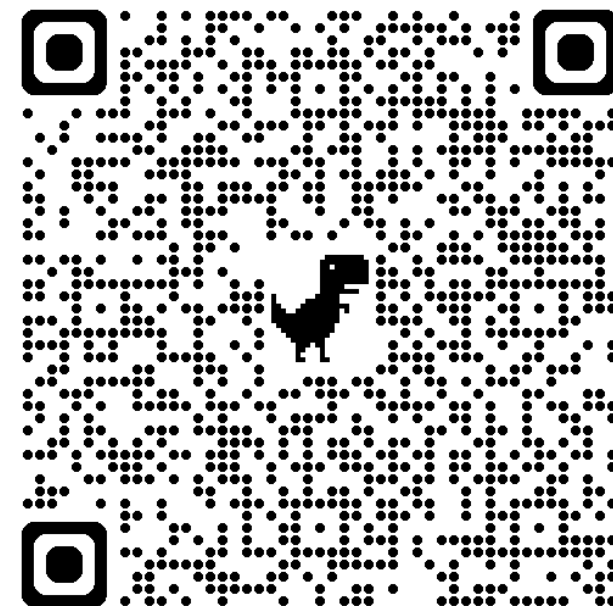
Further work:

MAPS: Multiple Long Term Conditions and Prematurity Study – 2025-2027

- Multiple long-term conditions (MLTCs) in preterm and term-born children, using CPRD data from GPs

E-CHAMPIONS: Examining Childhood Health and educAtion for those with MultiPle long-term conditions – TBC, 2027 onwards

- What is the impact of childhood MLTCs on health and education in England and Wales, and how can we improve NHS services?



Many thanks to:

My supervisors

NIHR

Bliss

BAPM

PICANet team and PICU staff

Paediatric Critical Care Society Study Group

NNRD team and UK Neonatal Collaborative

Clinical advisory group

Parental advisory panel, especially Ava's mum and Joshua's mum

Thank you for listening,
any questions?

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