



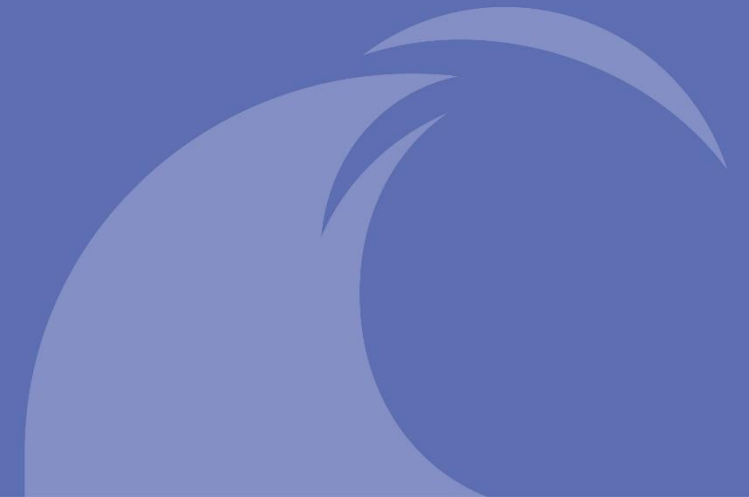
Zachary Nathan Phillips, with kind permission from his parents.

Lessons from SURFON trial recruitment

Elaine M Boyle, SurfON Chief Investigator

COMET Conference

26 September 2025



A multicentre, pragmatic, open-label, randomised controlled trial of early surfactant therapy versus expectant management in late preterm and early term infants with respiratory distress



Research question

- P** In babies born at 34⁺⁰ -38⁺⁶ weeks of gestation with respiratory distress, where the clinical plan is to give non-invasive respiratory support
- does*
- I** the early use of surfactant
- compared with*
- C** expectant management
- result in*
- O** shorter hospital stay and reduced incidence of severe respiratory disease



Study criteria

Inclusion criteria

1. Born at 34⁺⁰–38⁺⁶ weeks of gestation
2. ≤ 24 hours old
3. Respiratory distress, defined as:
 - $\text{FiO}_2 \geq 0.3$ and < 0.45 to maintain oxygen saturations $\text{SaO}_2 \geq 92\%$*or*
 - FiO_2 with clinically significant work of breathing
4. Clinical decision to provide non-invasive respiratory support
5. Written parental informed consent

Exclusion criteria

1. Major structural or chromosomal abnormality
2. No realistic prospect of survival
3. Prior intubation and/or surfactant administration
4. Known or suspected hypoxic ischaemic encephalopathy
5. Congenital abnormality of the respiratory tract
6. Known or suspected neuromuscular disorder



Study Objectives

- To compare, in infants randomised to receive early surfactant versus those who received expectant management
 - duration of neonatal hospital stay
 - incidence of severe respiratory failure
 - perinatal secondary outcomes
 - cost-effectiveness
- A pragmatic study



Primary outcomes

1. Length of infant's hospital stay after birth, defined as the number of days from birth to discharge home from hospital
2. Incidence of severe respiratory failure, defined as sustained (≥ 30 minutes) requirement for $\text{FiO}_2 \geq 0.45$ to maintain $\text{SaO}_2 \geq 92\%$



Current clinical practice

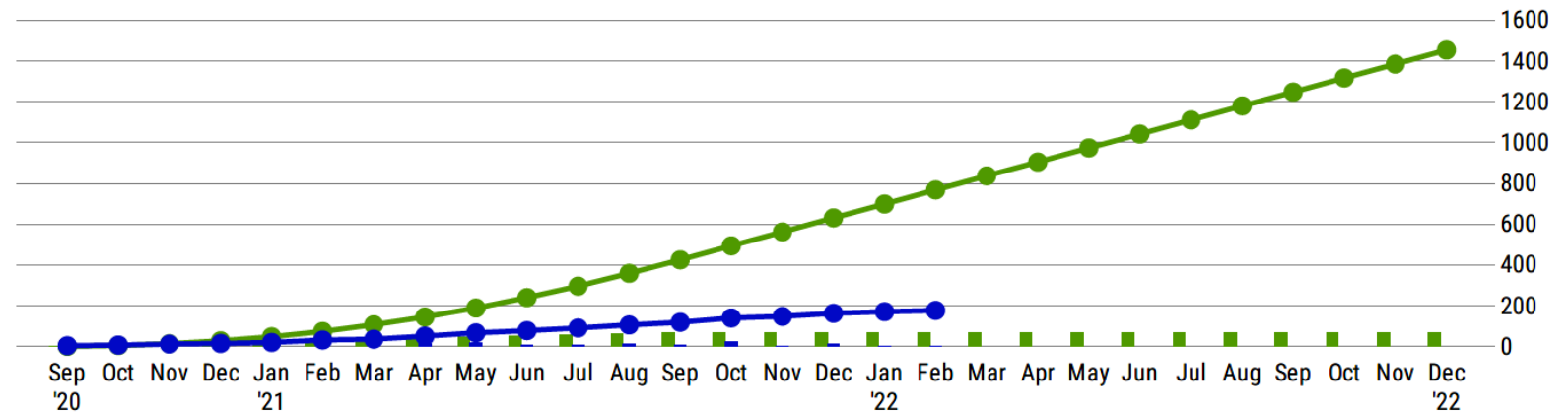
- Variable between and within neonatal units
- Some clinicians treat early with surfactant to prevent deterioration
- Some prefer to adopt a ‘watch and wait’ approach
- No defined limits for intervention
- No evidence for either approach
- Both can be regarded as “standard care”
- No RCTs in this group of babies











SurfON prior to recruitment pause – Feb 2022

Target, actual & projected recruitment, projected for 6 months

Monthly recruitment: ■ Target ■ Actual ■ Projected | Cumulative: —●— Target —●— Actual —●— Projected - - - Projected CI ± 95%



Target monthly recruitment	1	4	9	14	20	26	33	38	44	51	56	63	66	69	68	69	68	69	69	68	69	68	69	68	69	68	69		
Actual monthly recruitment	4	3	5	3	5	12	4	15	16	11	13	15	13	21	8	15	8	6											
Projected monthly recruitment																													
Target cumulative total	1	5	14	28	48	74	107	145	189	240	296	359	425	494	562	631	699	768	837	905	974	1042	1111	1180	1248	1317	1385	1454	
Actual cumulative total	4	7	12	15	20	32	36	51	67	78	91	106	119	140	148	163	171	177											
% target	400%	140%	86%	54%	42%	43%	34%	35%	35%	33%	31%	30%	28%	28%	26%	26%	24%	23%											
Projected total 95% CI lower																													
Projected cumulative total																													
Projected total 95% CI upper																													



What happened during the pause?

- Site visits by the CI and SurfON team
- Prepared 11 new sites to open
- Registered for the NIHR Associate PI scheme
- Introduced SurfON Champion scheme
- Negotiated for ANNPs to be able to confirm eligibility
- Regular site communications and updates in newsletters and emails
- Increased engagement via CRN East Midlands
- Raised awareness of SurfON at national and international conferences
- Publication: “optimising the management of respiratory distress in late preterm and early term babies”, Infant journal
- Gained understanding recruitment challenges, questions around trial equipoise and exchanged tips and suggestions



Top tips for success

- Have as many people as possible on the delegation log
 - Approach parents as early as possible
 - Appoint Study Champions
 - Use regular reminders and resources
 - Discuss the study at unit meetings
 - Review the eligible babies that are not recruited
-
- Bite-size online drop-in training sessions
 - Example video for recruitment
 - Recorded debate about the study



RECRUITMENT Hints and Tips

Surf ON

Times when it may be appropriate to approach parents about Surf ON

- If you are admitting a baby who meets the gestation criteria and is exhibiting signs of respiratory distress, regardless of a need for respiratory intervention at this point
- If you are counselling a mother whose baby is being delivered late preterm or early term and there is suspicion the infant may need neonatal unit admission

Times when it may be appropriate to approach and consent, but not randomise to Surf ON

- If the baby has an oxygen requirement, regardless of a decision to commence non-invasive respiratory support
- If the infant is on ncpap or high flow, but is in less than 30% oxygen and does not have clinically significant work of breathing

Times when it is appropriate to consent and randomise to Surf ON

- If the infant is on ncpap or highflow and has significant work of breathing, regardless of oxygen requirement
- If the infant meets the entry criteria, but enrolment may mean the infant could subsequently need transferring out

www.npeu.ox.ac.uk/surfon

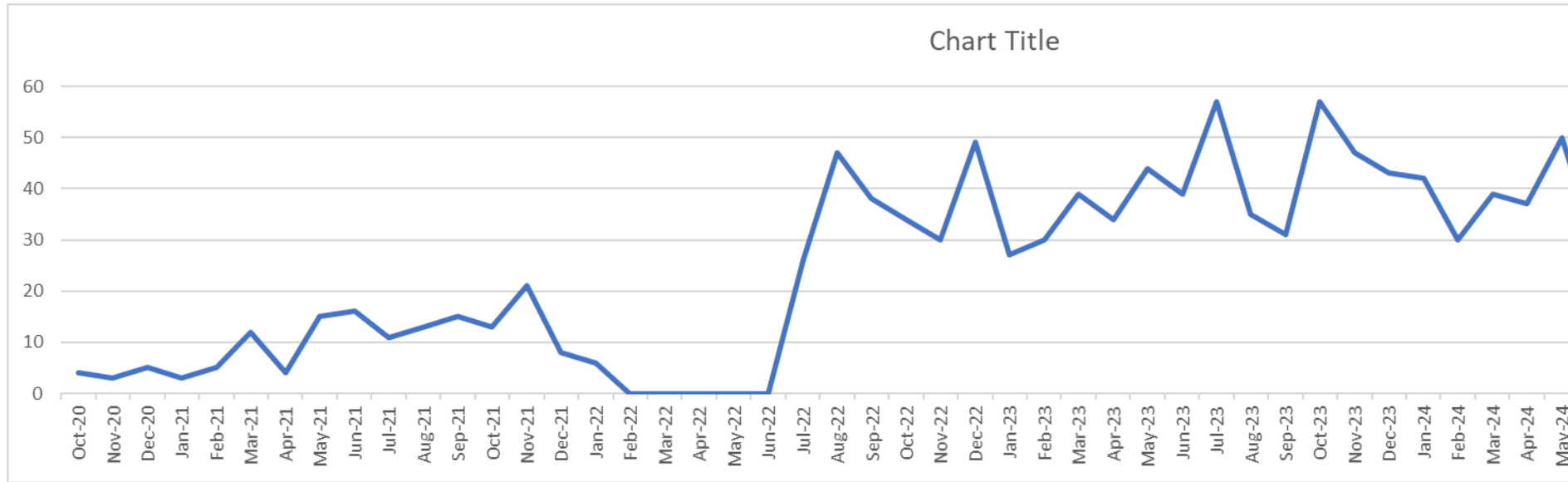
Study team contact details
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Not for display in an area accessible by the patients or public

NIHR | National Institute for Health and Care Research | **Surf ON** | **NPEU** | Oxford Neonatal Endpoints Unit

Surf ON Recruitment Hints & Tips Poster v2.0, 17 Jan 2020 NIHR Ref: 20040000 NIHR ID: 200022

Ongoing recruitment



Study start

Slow increase
in sites and
recruitment



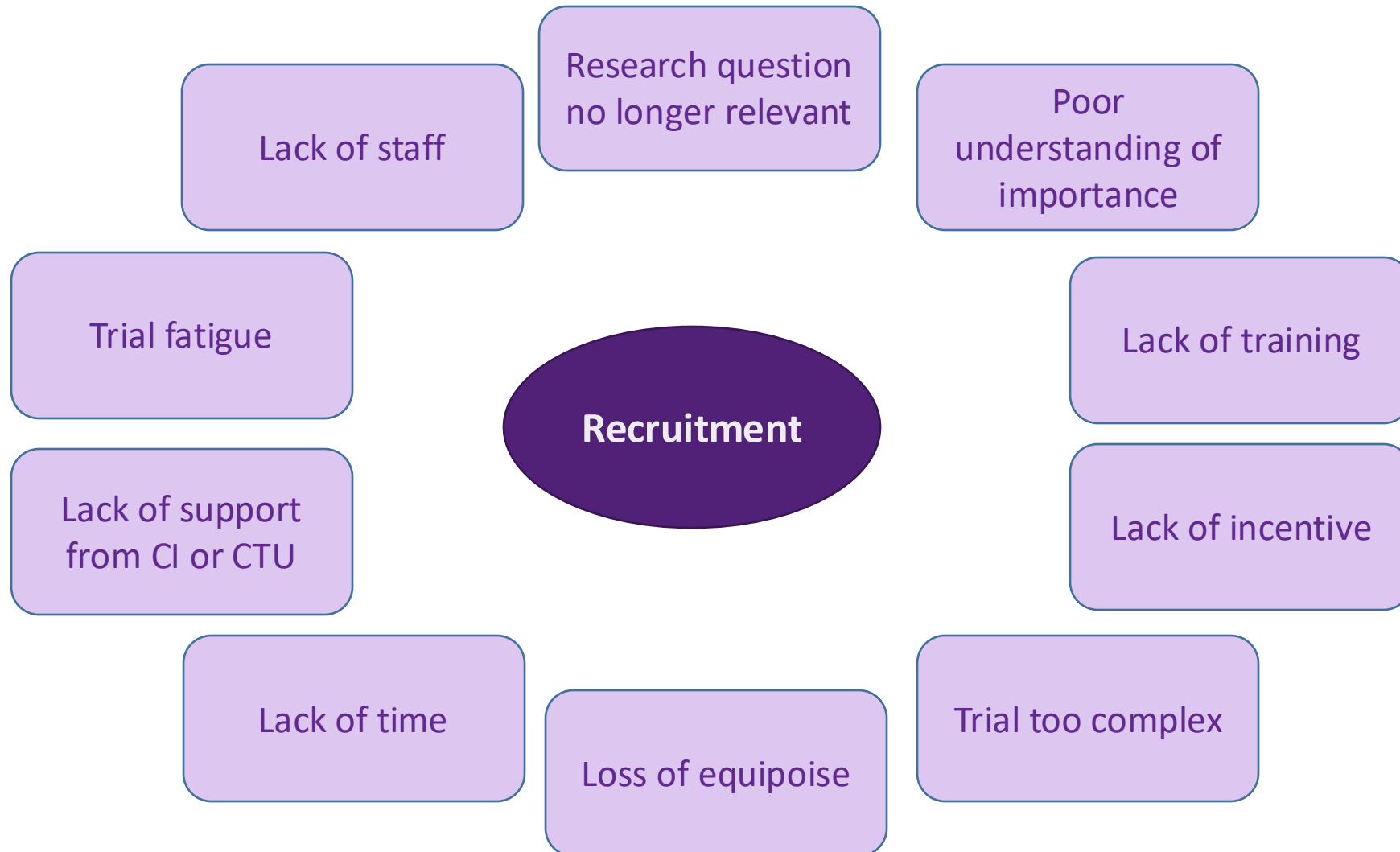
Covid-19 pause

Steady increase
in sites and
recruitment

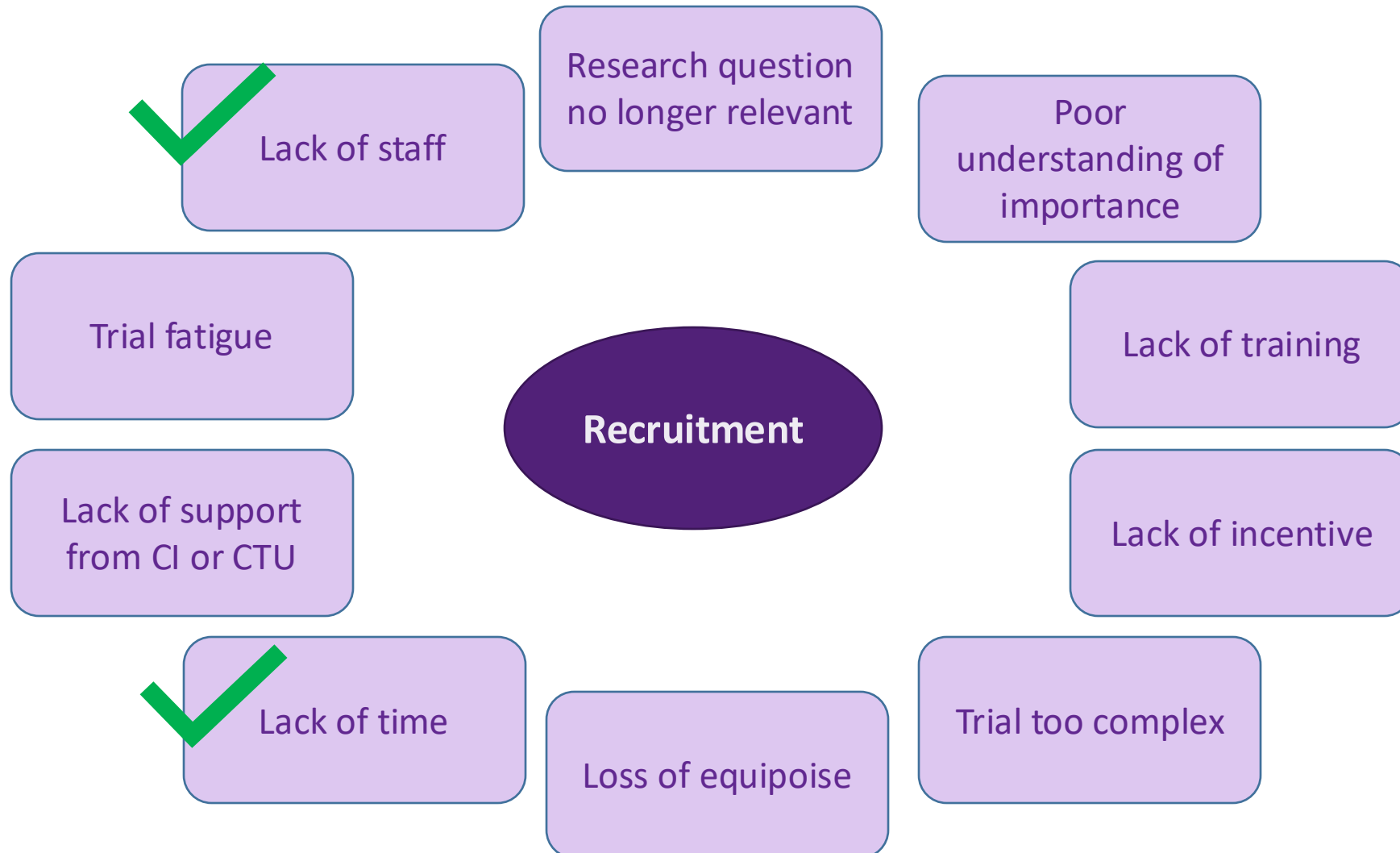
Increase in sites
but slowing in
recruitment



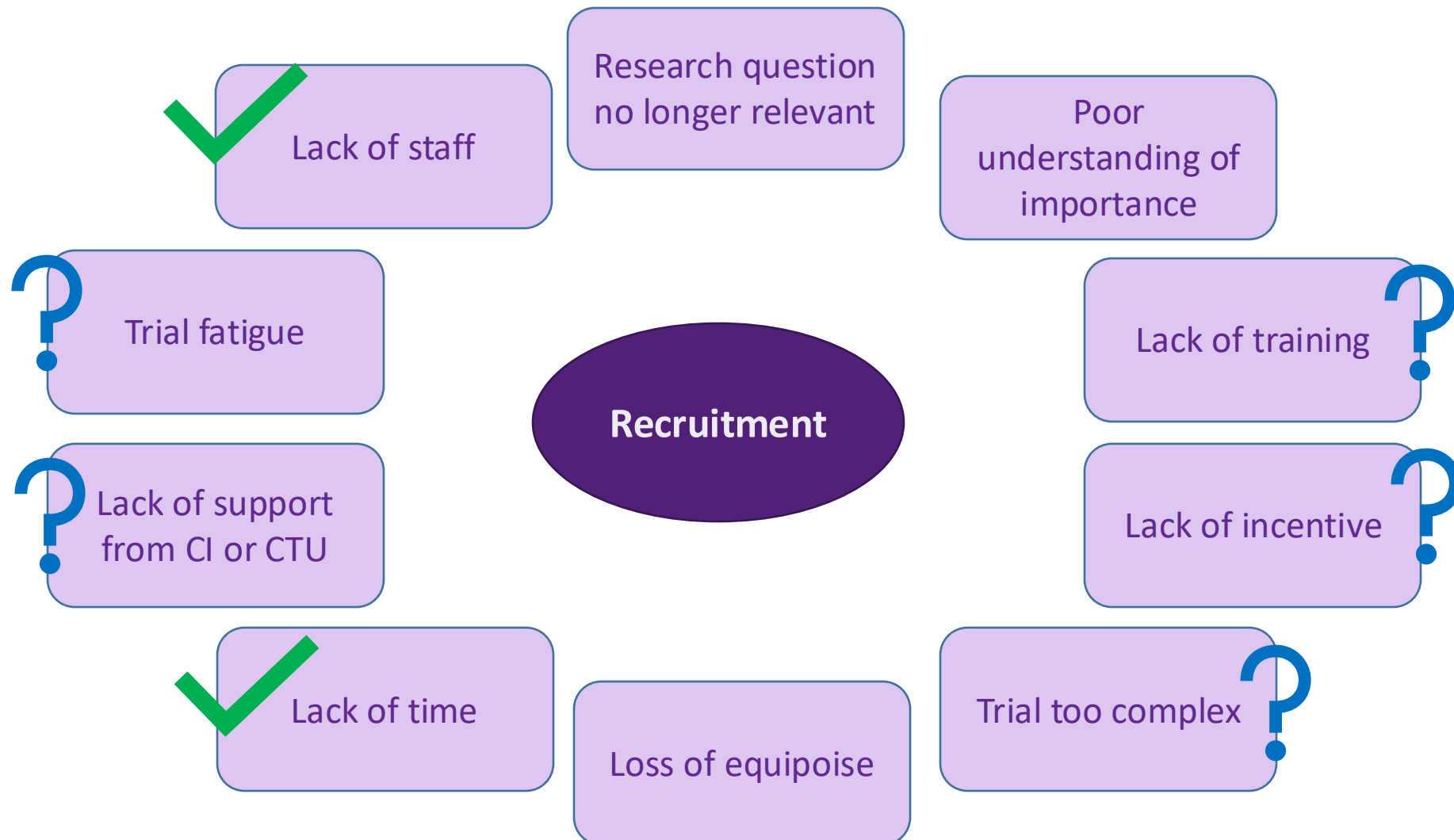
Why might recruitment slow down?



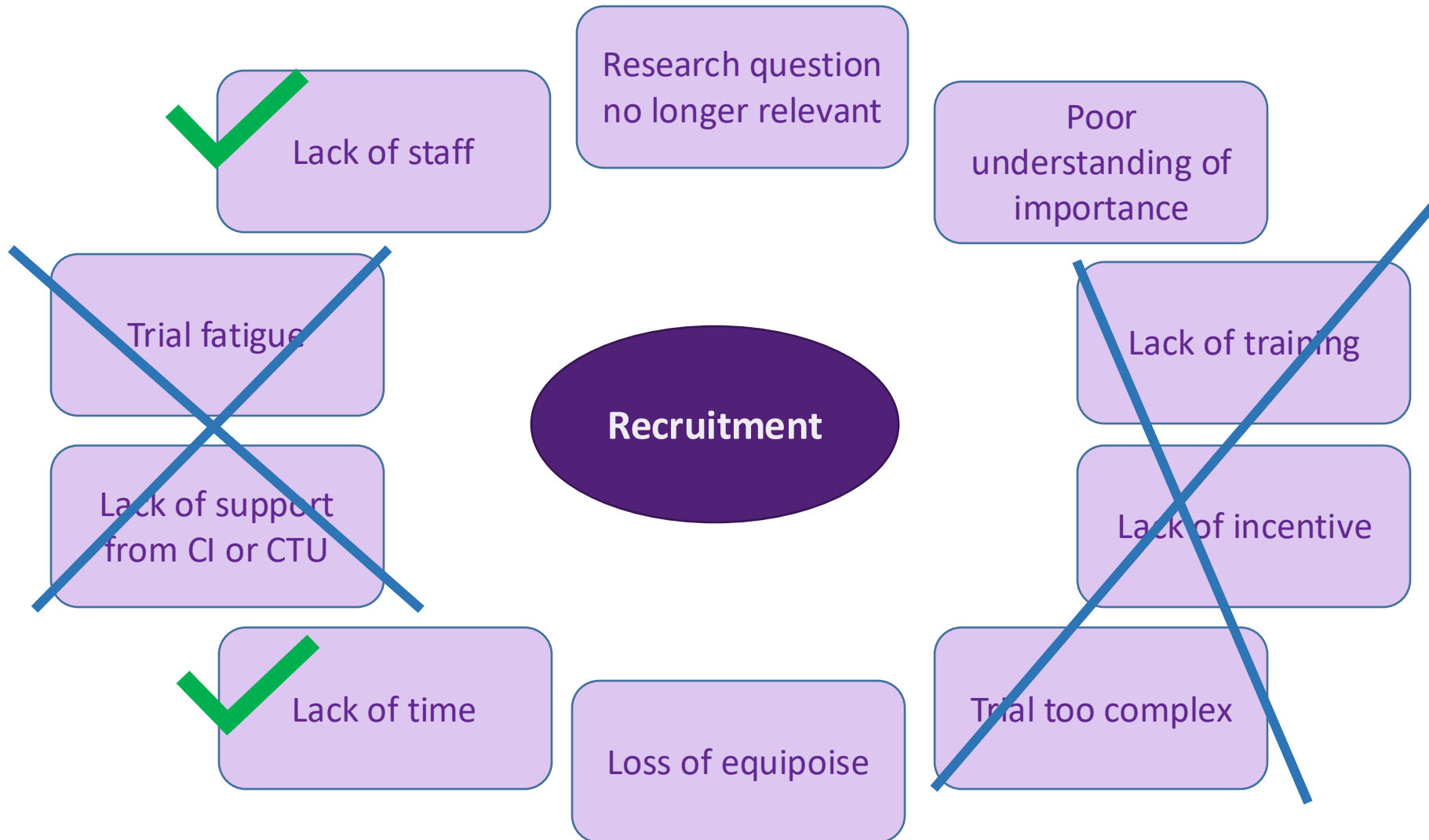
Why might recruitment slow down?



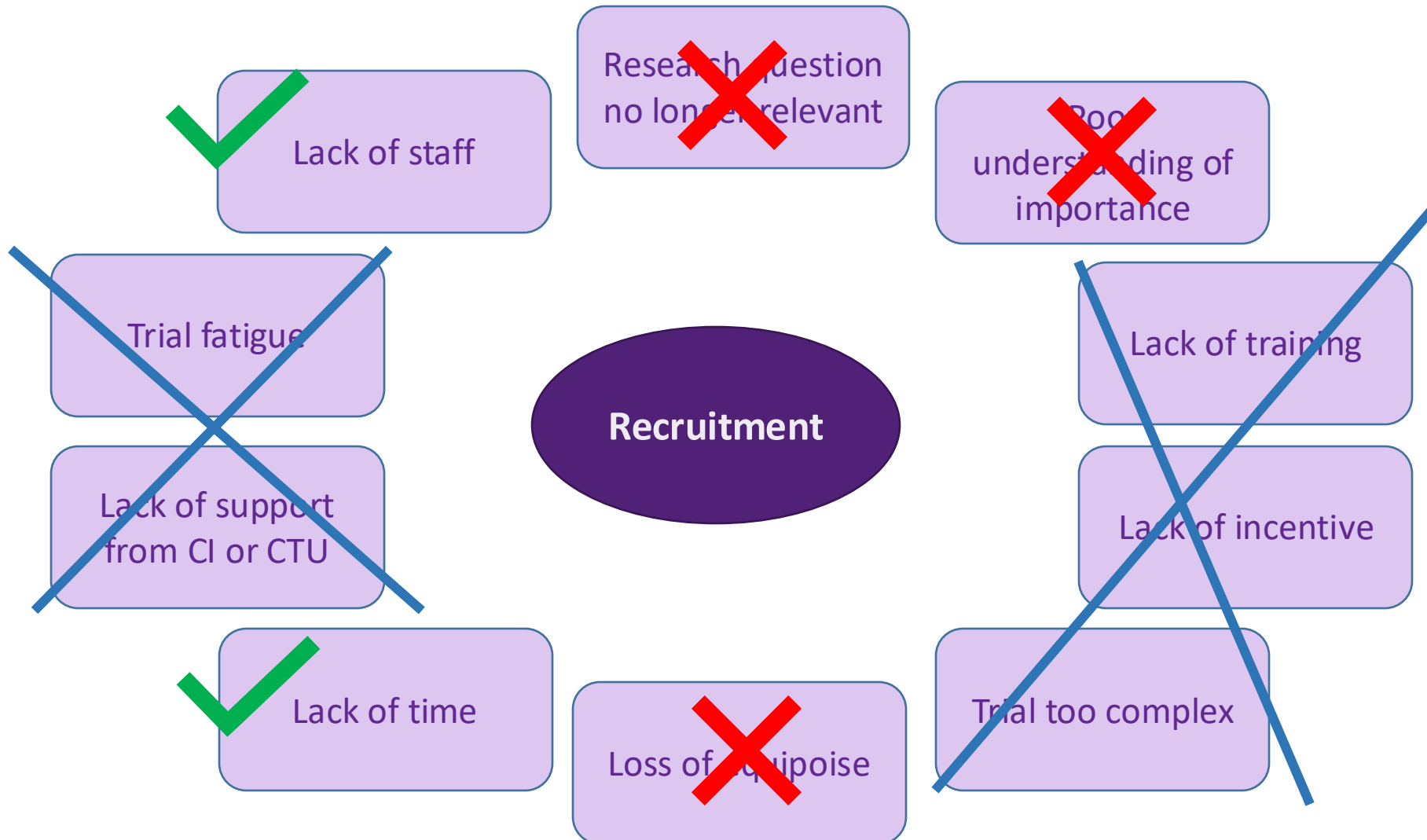
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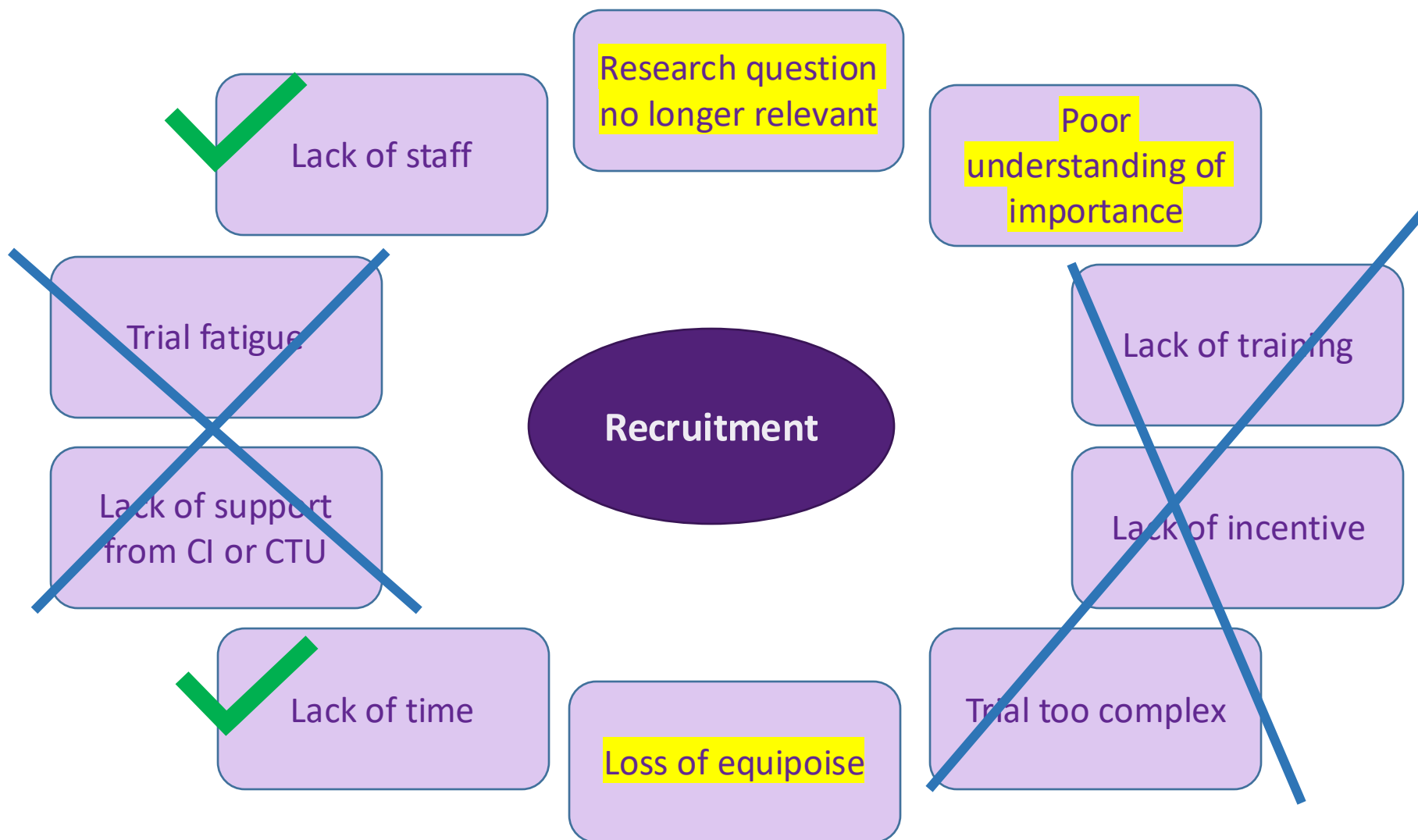
Why might recruitment slow down?



Why might recruitment slow down?



What to focus on?



Ongoing relevance

Surfactant use in late preterm infants: a survey among Belgian neonatologists. Cornette L, Mulder A, Debeer A, *et al.* Eur J Pediatr. 2021 Mar;180(3):885-892. doi: 10.1007/s00431-020-03806-1. Epub 2020 Sep 24. PMID: 32970243

Our survey demonstrates a significant variability in practice between neonatologists during treatment of respiratory pathologies in LPT infants. This highlights an urgent need for univocal therapeutic lines.

Surfactant therapy in late preterm and term neonates with respiratory distress syndrome: a systematic review and meta-analysis. Ramaswamy VV, Abiramalatha T, Bandyopadhyay T, Boyle E, Roehr CC. Arch Dis Child Fetal Neonatal Ed. 2022 Jul;107(4):393-397. doi: 10.1136/archdischild-2021-322890. Epub 2021 Oct 22. PMID: 34686533

In view of the low to very low CoE and widely varying thresholds for deciding on surfactant replacement in the included studies, further trials are needed.

Management of respiratory distress syndrome in moderate/late preterm neonates: A Delphi consensus. Rite Gracia S, Agüera Arenas JJ, Ginovart Galiana G, Rodríguez Revuelta MJ. An Pediatr (Engl Ed). 2024 Nov 1:S2341-2879(24)00262-X. doi: 10.1016/j.anpede.2024.10.003.

Most panellists agreed on the need for studies that determine the benefit/harm balance, clinical profile and methods of surfactant administration in moderate/late preterm neonates.

Finally, all respondents agreed that there is a lack of studies identifying risk factors and medium-term adverse outcomes in moderate/late preterm neonates.



Clinical equipoise

- Underpins all randomised controlled trials
- Uncertainty or disagreement exists among clinicians about the relative merits of different treatment options in a given condition/situation
- Different clinicians may prefer different approaches for the same patient
- There is no evidence that one approach is better than the other
- Trials are designed so that, if successfully conducted, the results should be convincing enough to resolve disagreement

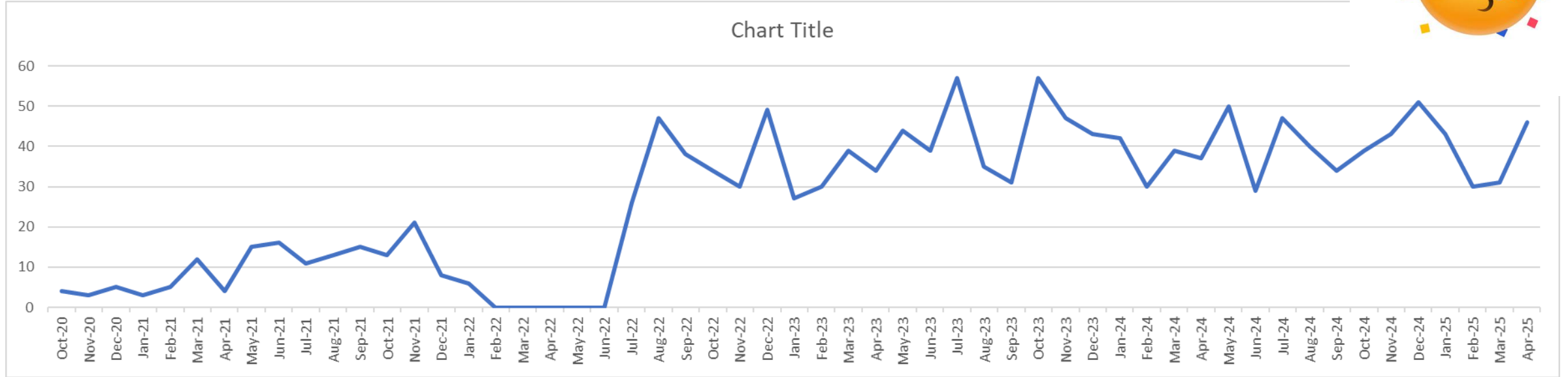


Important points to remember

- Research aims to improve outcomes for a given population by providing the highest quality evidence to inform care
- Studies are carefully and thoughtfully designed with appropriate inclusion and exclusion criteria to maximise the benefit for all
- Deviation from these because of personal prejudice or paternalism will lead to biased results
- It is our job to make parents aware of research for which their baby is eligible and whether or not to allow their baby to take part in research for which they are eligible must be their decision – not ours



Ongoing recruitment



Study start

Slow increase
in sites and
recruitment



Covid-19 pause

Steady increase
in sites and
recruitment

Increase in sites
but slowing in
recruitment

1515 of target
1522 recruited
by end of April
2025



My belief:

It is the *right of every family* to be given the opportunity to participate in available research that may benefit their baby or future babies

In the absence of robust evidence, we should not be making paternalistic judgements about who should and should not be approached based on our personal opinions.





Thank you!

Project Management Group

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Alison Leaf
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Trial Steering Committee

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Paul Fleming
Simon Dixon
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Pollyanna Hardy
Heather Tinkler (Parent rep)
Melissa Ashford (Parent Rep)

Parents and Babies

All local Principal Investigators
Research staff and clinical staff at all participating sites
Family, friends and colleagues

