

# An international survey to establish prioritised outcomes of oral corticosteroids treatment for preschool wheeze

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## Aims

Outcomes of clinical trials (RCTs) of oral corticosteroid (OCS) treatment for acute preschool wheeze are inconsistent. Likewise, six of 10 RCTs identified in our recent systematic review used different primary outcomes. This study aimed to identify priority clinical outcomes of OCS treatment prior to individual patient data analysis and future clinical trial:

- 1) Priority of outcome measures
- 2) Minimal clinically important difference (MCID)
- 3) Level of concern about adverse drug events (ADRs) when prescribing OCS in clinical practice

## Methods

**Design:** A cross-sectional survey of general health professionals

**When:** from the 12th of January to the 7th of March 2022

**Survey:** 3 sections, including 14 questions

- 1) one ranking question for the priority of outcome measures;
- 2) 11 slider questions for MCID;
- 3) two 5-point Likert scale questions for the level of concern about ADRs.

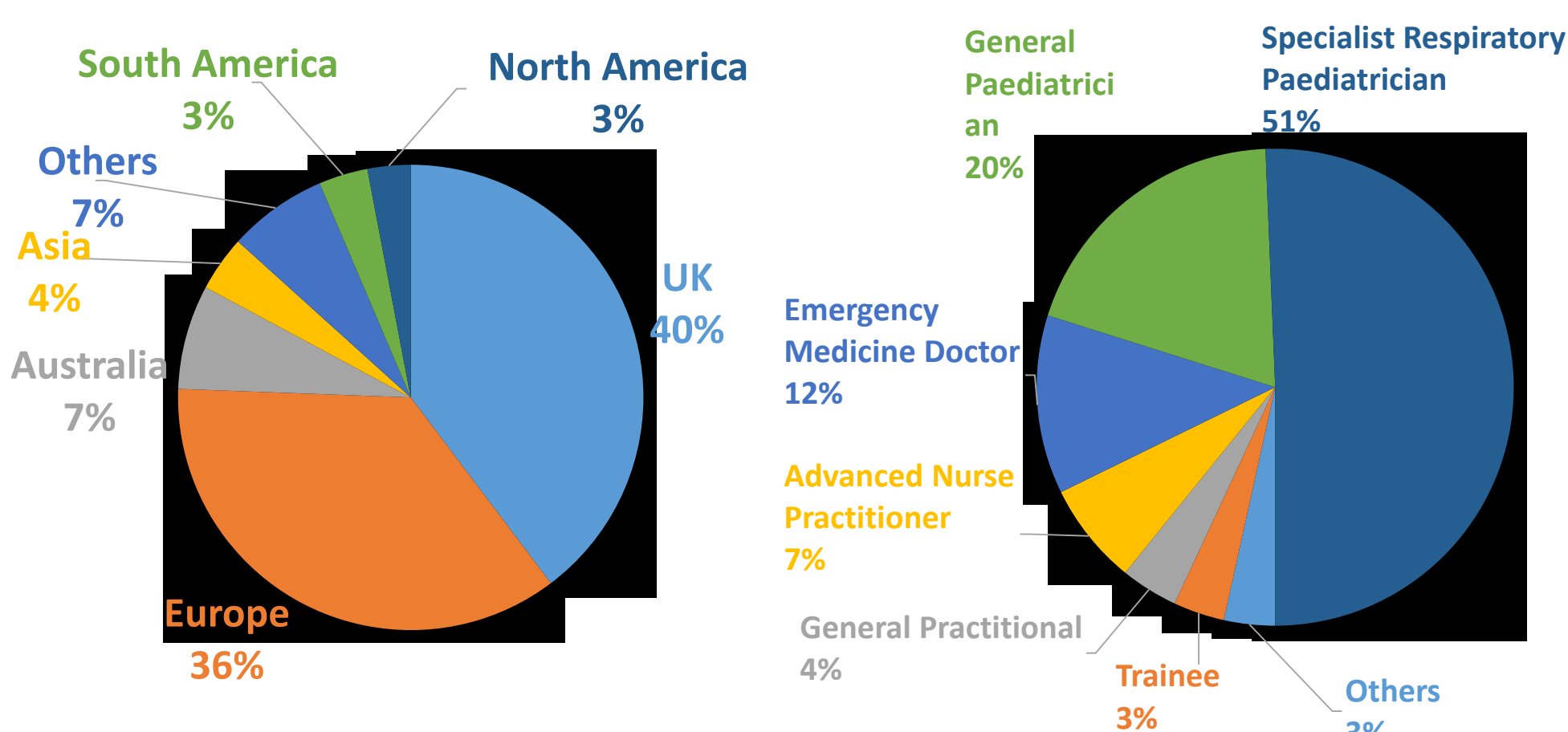
**Eligibility criteria:** primary care doctors, general paediatricians, emergency medicine doctors, respiratory paediatricians, respiratory nurses, trainees and clinical trial investigators + experience with OCS prescription for acute wheezing episodes regardless of years of experience

## Results

### Scenario

- A child aged 1 to 6 years (inclusive)
  - Acute onset wheeze
  - Signs of a viral infection
  - Presenting to emergency service with inpatient hospital access
  - The clinician who initially saw the child has started oral steroids
  - Prescribed a 3-day course of oral prednisolone (10mg once daily for 13-24 months, 20mg once daily for 25+ months) or as per your current regime
- During the emergency presentation/hospital admission, clinicians will make the assessments.
- Following discharge, parents will make assessments/use symptoms diaries, and clinicians will provide follow up contacts.

## Demographic information



## Priority of outcome measures

- The highest rank was “Length of hospital stay”, followed by “Pulmonary severity score” and “Time back to normal”.

Rank	Outcome measures
1	Length of hospital stay
2	Pulmonary severity score
3	Time back to normal
4	Readmission to hospital
5	Short-acting beta-agonist (SABA) use
6	Revisit to GP or ED for primary care
7	Additional OCS use

## Minimal clinically important difference

	Unit	Count (N, %)	Mean	SD	Median	IQR
Additional OCS use (No. of 100 children)	7 days	206, 89%	4.01	1.88	4.0	3.0-5.0
SABA use (doses)	7 days	202, 87%	31.41	14.04	30.5	20.0-40.0
Length of hospital stay	hr	196, 85%	5.44	2.63	5.0	4.0-6.0
Pulmonary severity score– 4 hrs	%	194, 84%	42.29	19.65	40.0	29.0-51.0
Pulmonary severity score– 12 hrs	%	193, 84%	51.04	20.34	50.0	37.0-62.5
Readmission (No. of 100 children)	7 days	189, 82%	1.64	0.73	1.5	1.0-2.0
Revisit to GP or ED (No. of 100 children)	7 days	189, 82%	6.35	2.92	6.0	4.0-8.0
Time back to normal	days	189, 82%	2.35	1.03	2.0	2.0-3.0

## Level of concern about adverse events

- Overall level of concern about adverse events was low.
- Highest concern about multiple use of OCS and its subsequent ADRs.

**Q. Would your answer be changed if a child showed a poorer response to the initial multi-dose/nebulised short-acting beta-agonist (SABA) and was admitted to the hospital due to increased breathing and widespread wheeze.**

- 44% of the respondents (n=102) positively answered that they would change their responses if a child showed a poor response to a nebulised SABA.
- Still, “multiple use of OCS” was the highest concern.

## Conclusion

- “Length of hospital stay” was the most preferred outcome measure.
- We succeeded to obtain MCID for outcome measures
- Overall level of concern about OCS was low for a short-course use, but health professionals were concerned about multiple use of OCS and its subsequent ADRs.

## Implications for future research

- Need to reach a consensus on MCID between health professionals and patients
- Need to incorporate ADRs into outcome measures as a holistic approach so that it can allow to assess a patient's whole experience with treatment.