Immunogenicity of a Single 4CMenB Vaccine Booster in Adolescents 11 Years After Childhood Immunisation

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1. Introduction: 4CMenB schedule in adolescents

- Two doses one month apart needed (Phase II/III trials), unlikely cost-effective in the UK
- From 2026, UK 11+ years old will have received 3 doses in infancy (2+1)
- Persistence? Potential for a single dose in >11years to induce sufficient serum bactericidal antibodies?

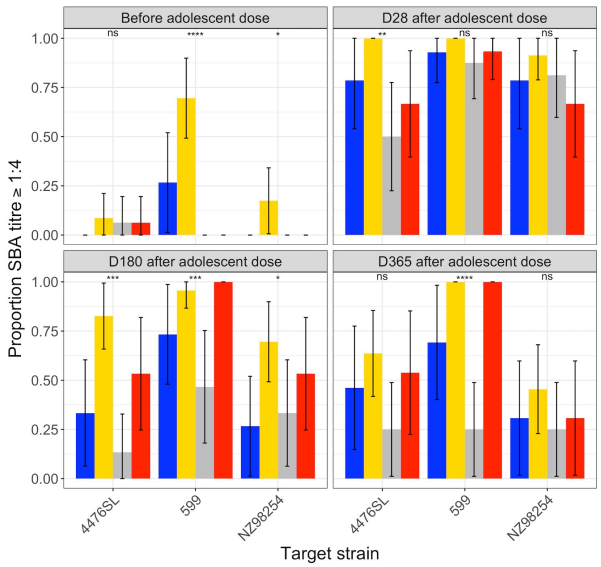
2. Methods: First infant clinical trials - 2006

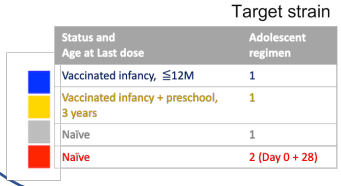
- Recruit at 11 years old to receive a single dose (day 0)
- Age-matched vaccine-naïve controls to receive a single dose (day 0) or a full 2-doses adolescent schedule (day 0 and 28)
- Serum bactericidal antibody responses against indicator strains at day 0, and at months 1, 6 and 12

Status	Number / age of doses in childhood	Age at Last dose	Adolescent regimen tested	N
Vaccinated infancy	1 (12M) 3 (6, 8, 12M) 4 (2, 4, 6, 12M)	12 months	1	16
Vaccinated infancy + preschool	3 (12, 40, 42M) 4 (6, 8, 12, 40M) 5 (2, 4, 6, 12, 40M)	3 years of age	1	23
Naïve	0	-	1	16
Naïve	0	-	2 (Day 0 + 28)	16

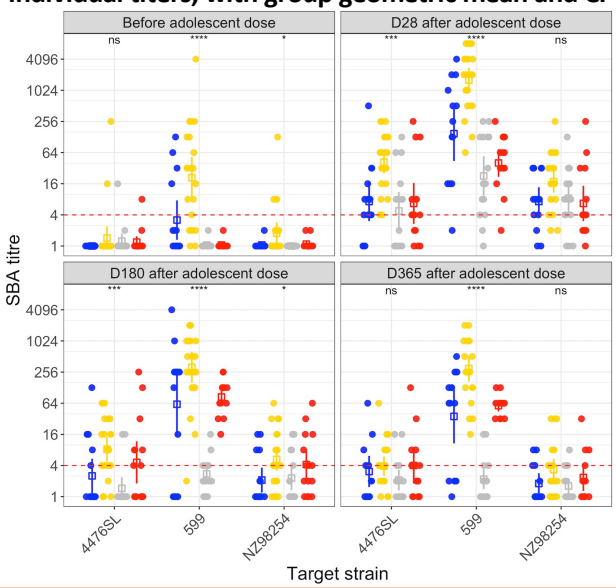
3. Results: hSBA

Proportion of participants with titer >= 1:4 and CI





Individual titers, with group geometric mean and CI



- Poor persistence prior to dosing
- Best responses induced by a single dose if previously participants received a preschool dose

4. Conclusions

- Small sample size → descriptive study
- Booster doses well tolerated
- B cell memory responses are not adequately primed <12 months of age

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