Maternal views on RSV vaccination during the second season of implementation in the United Kingdom

Shaun O'Hagan MB BCh BAO[1], Prof Steve Cunningham PhD[2,3], Simon B. Drysdale PhD[4,5], Helen E. Groves MB BCh BAO PhD[1], Samantha Hunt BSc[6], Dalia Iskander PhD[7], Xinxue Liu PhD[4], Mark D. Lyttle MBChB [8,9], Chengetai D. Mpamhanga MSc[10], Thomas Waterfield PhD[1], Thomas C. Williams PhD[2,10*]†, Robin Marlow PhD[11,12*] Damian Roland PhD[6,13*] on behalf of the PERUKI & BronchStart/Stop Collaboration[14]‡

[1]Wellcome-Wolfson Institute for Experimental Medicine at Queen's University Belfast, Northern Ireland, United Kingdom (UK); [2]Department of Paediatric Respiratory and Sleep Medicine, Royal Hospital for Children and Young People, Edinburgh, UK; [3]Centre for Inflammation Research, University of Edinburgh, UK; [4]Oxford Vaccine Group, Department of Paediatrics, University of Oxford, UK; [5]NIHR Oxford Biomedical Research Centre, Oxford, UK; [6]Paediatric Emergency Medicine Leicester Academic (PEMLA) Group, Leicester Royal Infirmary, UK; [7]Department of Anthropology, University College London, UK; [8]Research in Emergency Care Avon Collaborative Hub (REACH), University of the West of England, Bristol, UK; [9]Emergency Department, Perth Children's Hospital, Perth, Australia; [10]Child Life and Health, University of Edinburgh, UK; [11]Emergency Department, Bristol Royal Hospital for Children, Bristol, UK; [12]NIHR Health Protection Research Unit in Behavioural Science and Evaluation, University of Bristol, UK; [13]Sapphire Group, Population Health Sciences, University of Leicester, UK; [14]The Paediatric Emergency Research UK and Ireland (PERUKI) and BronchStart/Stop Collaboration

[*]These authors contributed equally

†**Corresponding author:** Thomas Williams, Child Life and Health, University of Edinburgh, 50 Little France Crescent, Edinburgh EH16 4TJ, United Kingdom [thomas.christie.williams@ed.ac.uk]

‡Members of the Paediatric Emergency Research UK and Ireland (PERUKI) and BronchStart/Stop Collaboration are listed in the appendix (pp 3-4)

Word count: 731 words

Main text

In late summer 2024, the United Kingdom introduced universal maternal bivalent RSV prefusion F protein (RSVpreF) vaccination for pregnant women. This is now offered year-round, free of charge to all pregnant women, administered from 28 weeks of gestation onwards. Following RSVpreF introduction, in September-December 2024 we surveyed mothers of infants hospitalised with acute lower respiratory tract infections in the BronchStop study to understand their views on RSVpreF.[1] Amongst unvaccinated respondents, a high proportion (35%) disagreed/strongly disagreed with the statement “the RSV vaccine was easy for me to get”, suggesting access as a contributor to initial low vaccine uptake. However, a year into the campaign, maternal RSVpreF uptake remained low (55.6% in England in July 2025[2]). This prompted us to repeat the survey, to understand whether it was ongoing access issues, concerns about vaccine safety, lack of awareness about RSV, or other factors, that were contributing to low uptake and could be addressed by public health efforts

From August 27, 2025, to December 15, 2025, 434 women from England, Scotland and Northern Ireland were recruited to Season 2 of the BronchStop study. We repeated the 3 questions from the survey reported previously (full study design details in the appendix, pp 1–2). Amongst mothers of RSV-negative control infants who recalled their vaccination status, 125/196 reported receiving RSVpreF, indicating vaccine coverage of 64% , broadly comparable to the latest estimates for England[2] and Scotland[3], and providing reassurance that the surveyed population was representative of the maternal RSVpreF eligible population as a whole. This figure of 64% compares to an estimated vaccine coverage of 41% amongst recruits to Season 1 of the BronchStop Study.[4] Participants were broadly representative of the United Kingdom population, with 90/434 (21%) identifying as being of non-white ethnicity, and all socioeconomic quintiles included.

For the statement “I am confident that the RSV vaccine is safe”, the proportion who strongly disagreed/disagreed remained stable (7% in 2024 vs 8% in 2025, figure), with an increase in those who agreed/strongly agreed (56% vs 61%; p=0.03 for overall comparison). For “I am confident that the RSV vaccine is necessary” there was a small increase in those who strongly disagreed/disagreed (7% vs 10%), and a decrease in those who agreed/strongly agreed (75% vs 65%, p = 0.001). For “the RSV vaccine was easy for me to get” there was a reduction in those who strongly disagreed/disagreed (30% vs 17%), and an increase in those who agreed/strongly agreed (46% vs 71%; p<0.001).

Comparison of responses from vaccinated/unvaccinated mothers across two seasons (supplementary figure) showed that the proportion of unvaccinated mothers reporting difficulties accessing RSVpreF decreased only marginally, from 35% to 27%, indicating access barriers persisted for a considerable proportion of mothers who may have wished to be vaccinated. Additionally, unvaccinated respondents were consistently more likely to have neutral

views on the safety and necessity of the vaccine. Free text responses from *unvaccinated* mothers grouped around several key themes, including concerns about the safety ("I heard horror stories online ... and got caught up with negative TikTok videos"), lack of knowledge about RSV ("I was offered the RSV vaccine but no one explained what it was or the impact of RSV on my baby"), and logistical difficulties ("The wait and queue for the vaccine was too long. I could not wait as I had a toddler at home").

Whilst access to RSVpreF has clearly improved in 2025 compared to 2024, a substantial proportion of all respondents (17%) highlighted difficulties in accessing the vaccine. This suggests there are ongoing systemic barriers, which we will investigate in an upcoming in-depth qualitative study.[5] Additionally, our results show a stable minority believe that RSVpreF is unsafe (8%) and unnecessary (10%), but also a larger group who hold neither negative nor positive views about the safety (31%) or necessity (25%) of the vaccine. This suggests further efforts to highlight RSVpreF safety and increase RSV disease awareness could increase uptake and ensure the proportion of those concerned about RSVpreF safety/importance does not rise.

Two effective approaches to prevent severe RSV disease in infants are currently available: maternal vaccination and infant immunisation with a long-acting monoclonal antibody. Spanish data shows nirsevimab uptake can reach 90% amongst eligible infants[6] with consequent dramatic impacts on hospital admissions, e.g. the 89% reduction in RSV-related admissions in Galicia in 2023-2024[7]. The challenge is to demonstrate that maternal vaccination can attain sufficiently high coverage rates to deliver similar impact.

References

1. Williams TC, Marlow R, Cunningham S, et al. Maternal views on RSV vaccination during the first season of implementation in England and Scotland. *Lancet Infect Dis* 2025; 25: e135–6.
2. United Kingdom Health Security Agency. Respiratory syncytial virus (RSV) maternal vaccination coverage in England: July 2025 - GOV.UK. 2025; published online Nov 27. https://www.gov.uk/government/publications/rsv-maternal-vaccination-coverage-in-england/respiratory-syncytial-virus-rsv-maternal-vaccination-coverage-in-england-july-2025 (accessed Dec 8, 2025).
3. Public Health Scotland. Respiratory Syncytial Virus (RSV) Pregnancy Vaccination in Scotland (Live births from August 2024). 2026; published online Jan 8. https://scotland.shinyapps.io/phs-vaccination-surveillance/
4. Williams TC, Marlow R, Cunningham S, *et al.* Bivalent prefusion F vaccination in pregnancy and respiratory syncytial virus hospitalisation in infants in the UK: results of a multicentre, test-negative, case-control study. *Lancet Child Adolesc Health* 2025; 9: 655–62.
5. O'Hagan S, Cunningham S, Drysdale SB, et al. BronchStop Study Protocol, Season 2. *NIHR Open Researc*h 2025 5:85 2025; 5: 85
6. Trusinska D, Lee B, Ferdous S, et al. Real-world uptake of nirsevimab, RSV maternal vaccine, and RSV vaccines for older adults: a systematic review and meta-analysis. *EClinicalMedicine* 2025; 84. DOI:10.1016/j.eclinm.2025.103281.
7. Ares-Gómez S, Mallah N, Santiago-Pérez MI, et al. Effectiveness and impact of universal prophylaxis with nirsevimab in infants against hospitalisation for respiratory syncytial virus in Galicia, Spain: initial results of a population-based longitudinal study. *Lancet Infect Dis* 2024; 24: 817–28.

Competing interests

None of the authors declare any competing interests.

Author contributions

SC, SBD, DI, HG, ML, DM, SO, DR, TW and TCW conceived the study. SC, SBD, DI, HG, XL, ML, DM, SO, DR, TW and TCW made substantial contributions to the design of the work. CM and SH contributed towards acquisition of data for the work. RM and TCW performed the analysis and interpretation of the data. SC, SBD, RM, DR, and TCW drafted the manuscript. All the authors had access to data reported in the study, all authors revised the manuscript critically for important intellectual content and all authors approved the final manuscript prior to submission.

Acknowledgements

The BronchStart-Stop project has been funded by the Respiratory Syncytial Virus Consortium in Europe (RESCEU), the Wellcome Trust (WT 13600061), and the National Institute for Health and Care Research (NIHR) Health Protection Research Unit in Respiratory Infections (NIHR207417), Imperial College London, the Public Health Agency Northern Ireland, the Belfast Health and Social Care Trust (BHSCT) Charitable Trust Funds, and the Edinburgh Children's Hospital Charity. The views expressed are those of the authors and not necessarily those of the NIHR or the Department of Health and Social Care. The funders played no role in the writing of the manuscript or the decision to submit it for publication.

The PERUKI & BronchStart-Stop Collaborators would like to thank the mothers who took part in this survey. We thank colleagues across the PERUKI Network for data collection for this study. We thank Elizabeth Whittaker for input at the project planning stage, and Ajit Lalvani for helpful conversations and advice regarding the set-up of the BronchStop-study, Samuel Evetts for mobilising resources for the study, and Emily Ephgrave for logistical support. We thank Conall Watson for helpful discussions regarding the maternal RSV vaccination programme in England.

Supporting data

The R code used to make the calculations for this paper is available on GitLab (https://git.ecdf.ed.ac.uk/twillia2/bronchstop/-/tree/main/maternal_vaccination_survey_S2); the BronchStop dataset will be held for a minimum of 3 years and is available to be shared on reasonable request to the authors.