

Appendix to “Maternal views on RSV vaccination during the second season of implementation in the United Kingdom”

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Details of the BronchStop Vaccine Effectiveness Study and Maternal Questionnaire, Season 2

In 2021 we conducted the BronchStart study, which collected information on 17,899 presentations to hospital in children with serious respiratory tract infections following the release of lockdown restrictions in the United Kingdom (UK).¹ We found that the most common cause of these presentations was respiratory syncytial virus (RSV). Our study informed the subsequent decision to introduce a maternal vaccine against RSV (the RSVpreF vaccine; Abrysvo) in the UK. This vaccine was introduced in August/September of 2024 in the United Kingdom.

In the first season of Abrysvo introduction we used the same network to perform a study to look at RSVpreF vaccine effectiveness. This new sub-study, called BronchStop, collected detailed information on infants admitted to hospital with serious respiratory disease to conduct vaccine effectiveness calculations.² Additionally, we interviewed mothers to identify reasons why they might have chosen not to receive the RSV vaccine whilst pregnant. We designed a questionnaire based around the 5 Cs of vaccine hesitancy (confidence, complacency, constraints, risk calculation, and collective responsibility)³ to understand maternal views on the new RSVpreF vaccine. The questionnaire asked whether mothers had received an RSV vaccination during pregnancy, and their views on this vaccine. Answers to the 5 questions were structured using a Likert scale, with possible responses ranging from “Strongly disagree” to “Strongly agree”, and an additional free text option to share any views on vaccination not captured in the structured questions.

In the initial survey⁴ conducted from September 8 to December 31, 2024, we found that a contributory factor to low vaccine uptake in the first few months of the campaign (estimated uptake in England for births in December 2024 was 47.6%)⁵ appeared to be difficulty in accessing the vaccine. A high proportion of those who had not been vaccinated (117/333; 35%) disagreed or strongly disagreed with the statement “the RSV vaccine was easy for me to get”, compared with 14% of those who had received RSVpreF. As maternal RSVpreF uptake remained low a year after introduction (55.6% amongst births in England in July 2025⁶) we repeated the maternal survey in the second RSV season following RSVpreF introduction, keeping 3 of the original 5 questions: those related to safety, necessity and ease of access.

The study was submitted for Integrated Research Application System (IRAS) approval with University Hospitals of Leicester NHS Trust as the Study Sponsor, IRAS ID 297802, and the latest substantial amendment to the study received a favourable opinion from the Research Ethics Committee on October 14, 2025. The final study protocol was published September 23, 2025;⁷ the full questionnaire is available online as part of the Extended Data for the protocol.

For Season 2, we recruited the mothers of infants less than 6 months of age admitted to hospitals with bronchiolitis, lower respiratory tract infection or first episode of wheeze across 36 study sites in England, Scotland, Wales and

Northern Ireland (Supplementary Table); recruitment commenced on August 27, 2025. Responses to the maternal questionnaire, including free text responses, were collected using RedCap online data entry software.⁸ Responses from the two seasons were compared using a Wilcoxon rank-sum test implemented in R⁹, with code made available at the BronchStop repository on Gitlab (https://git.ecdf.ed.ac.uk/twillia2/bronchstop/-/tree/main/maternal_vaccination_survey_S2).

Participating mothers were also asked whether they would be willing to participate in a further semi-structured telephone interview to further understand their views on RSV vaccination, interviews for which will be conducted in early 2026.

References

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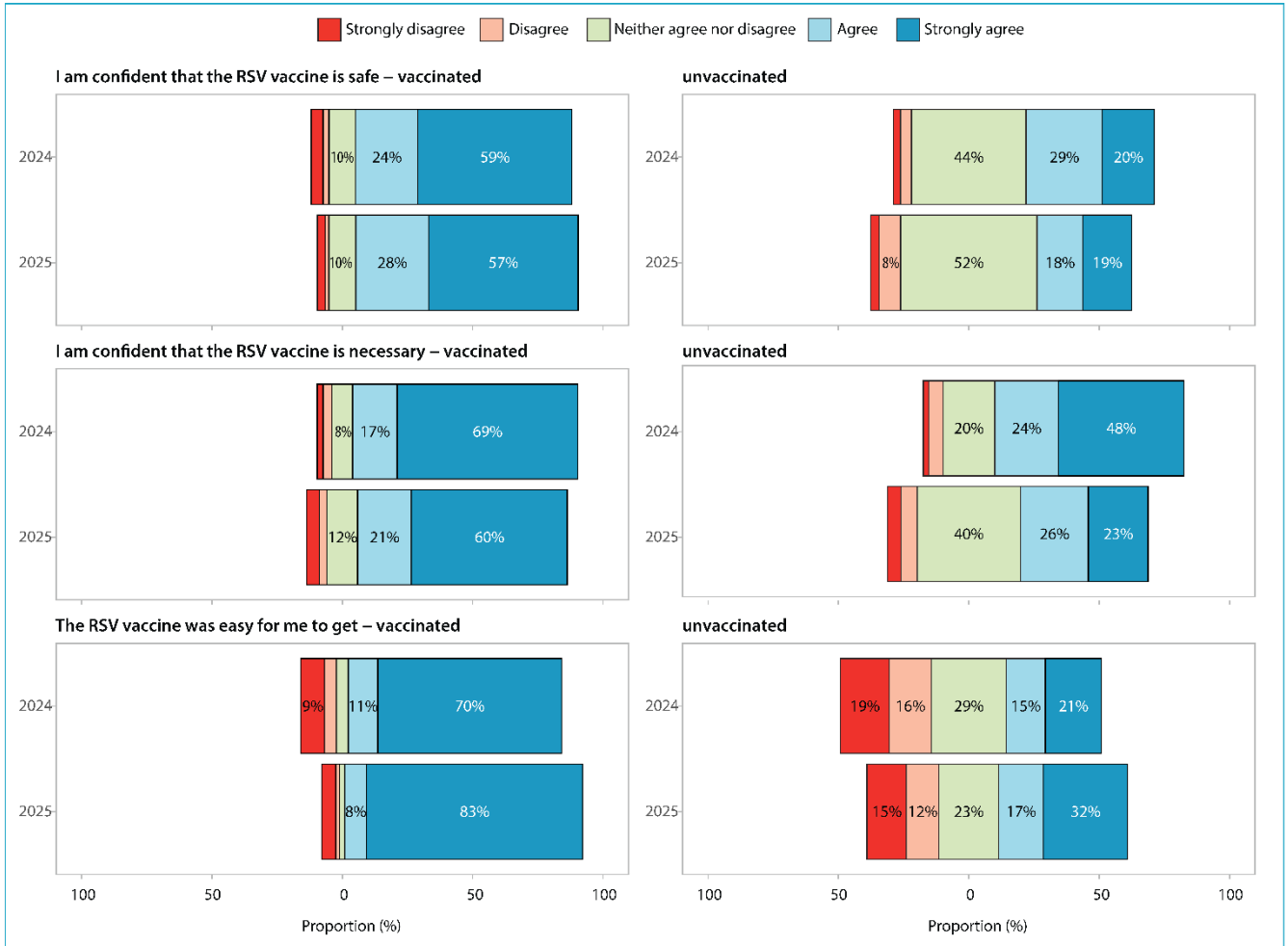
Supplementary Table: PERUKI & BronchStart/Stop Collaboration Site Leads and Co-Leads

SITE	SITE LEAD(S)	CO-LEAD(S)
ROYAL ABERDEEN CHILDREN'S HOSPITAL	Catriona Middleton,	Jill Paxton, Nicola Thomson, Maggie Connon
ALDER HEY CHILDREN'S HOSPITAL NHS FOUNDATION TRUST	Meriel Tolhurst-Cleaver, Sarah Siner	Stephen Fletcher, Karen Geoghegan, Laura Tremarco
BARNET HOSPITAL	Cynthia Diaba	Chidinma Iheanetu-Oguejiofor, Lobsong Dolma, Stephen Ruo, Richard Berg, Sarah Farah, Elena Kehtarnavaz
THE ROYAL LONDON HOSPITAL (BARTS HEALTH NHS TRUST)	Abigail Whitehouse	Grace Wild, Sobia Siraj
ROYAL BELFAST HOSPITAL FOR SICK CHILDREN	Tom Waterfield, Shaun O'Hagan	Bethany Fisher, Louise Cochrane, Helen Groves, Hannah Norman-Bruce, Damaris Condy
BRISTOL ROYAL HOSPITAL FOR CHILDREN	Robin Marlow	Elizabeth Ledger, Ruth Bonsor, Katy Lillie, Robert Eggen
COUNTESS OF CHESTER NHS FOUNDATION TRUST	Stephen Brearey	Caroline Burchett, Sarah de-Beger
COLCHESTER HOSPITAL	Mat Stuart	Chiara De Leonardis
CROSSHOUSE HOSPITAL (KILMARNOCK)	Claire Bell	Lawrence Armstrong
DONCASTER AND BASSETLAW	Babu Benjamin	Sarah Farmer
EAST CHESHIRE NHS TRUST	Mudiyur Gopi	Natalie Keenan
RHCYP EDINBURGH	Jen Browning, Caroline Blackstock	Rachel O'Brien, Jennifer Jamieson
EVELINA LONDON CHILDREN'S HOSPITAL	Gracita Woods	Sylvester Gomes, Dilini Vasanthakumar, Kayleigh Kanhai
ST GEORGE'S UNIVERSITY HOSPITALS NHS FOUNDATION TRUST	Heather Jarman, Zee Karame	Lyndsay Drumm
RHC GLASGOW	Steve Foster, Susanne Cathcart	Louise Edwards
HOMERTON HOSPITAL	Meena Patel	Jonathan Kong, Bronwyn Tuddenham
IMPERIAL COLLEGE LONDON	Ruud Nijman	Neil Thompson
IPSWICH HOSPITAL	David Hartin	Rebecca Francis, Genevieve Nguya, Deborah Beeby
LEICESTER ROYAL INFIRMARY	Damian Roland	Samantha Hunt
LEIGHTON HOSPITAL, MID-CHESHIRE	Joanne Tomlinson	Jo Tillet,

MEDWAY HOSPITAL NHS FOUNDATION TRUST	Surendra Singham	Mary Everett
NINEWELLS HOSPITAL, DUNDEE	Eilidh Grant	Pauline Miller
NORTHERN LINCOLNSHIRE AND GOOLE	Kelum Perera	Jasmine Stares, Manuela Brazil, Emma Lancaster, Julie Hamill, Evonne Zingraf
NORTHUMBRIA HEALTHCARE NHS FOUNDATION TRUST	Lee Tubman, Sunil Bhopal	Jessica Reynolds, Gabrielle Larkin
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POOLE HOSPITAL	Heather Deall	Stephanie Grigsby, Nina Vanner, Francesca Diaz, Madiha Akram, Sophie Jamieson
ROYAL PRESTON HOSPITAL	Kirsty Challen	Emma Strogon
ROYAL DERBY HOSPITAL	Graham Johnson	Jonathan Riley, Alison Fletcher, Alison Matthews, Lianne Hufton, Elisha Cousins, Alison Rockey, Claire Fearn, Beth Harvey
ROYAL FREE HOSPITAL	Cynthia Diaba	Chidinma Iheanetu-Oguejiofor, Lobsong Dolma, Stephen Ruo, Katie Bub. Elena Kehtarnavaz
ROTHERHAM NHS FOUNDATION TRUST	Catriona Webb	
SALISBURY NHS FOUNDATION TRUST	Sebastian J Gray, Sarah Diment	Ginny Griffiths
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Supplementary Figure



Supplementary figure: Participant responses to questionnaire on maternal RSV vaccination in Season 1 and 2 of the BronchStop Study, stratified by self-reported vaccination status and year

Responses on the left are those from mothers who recalled receiving RSV vaccination during pregnancy, and those on the right from those who did not recall receiving this. RSV=respiratory syncytial virus. Participants who responded “Neither agree nor disagree” to each question are aligned to the centre of the graph. Values of less than 8% are not labelled due to space constraints. Totals may not add up to 100% due to rounding of the nearest integer.