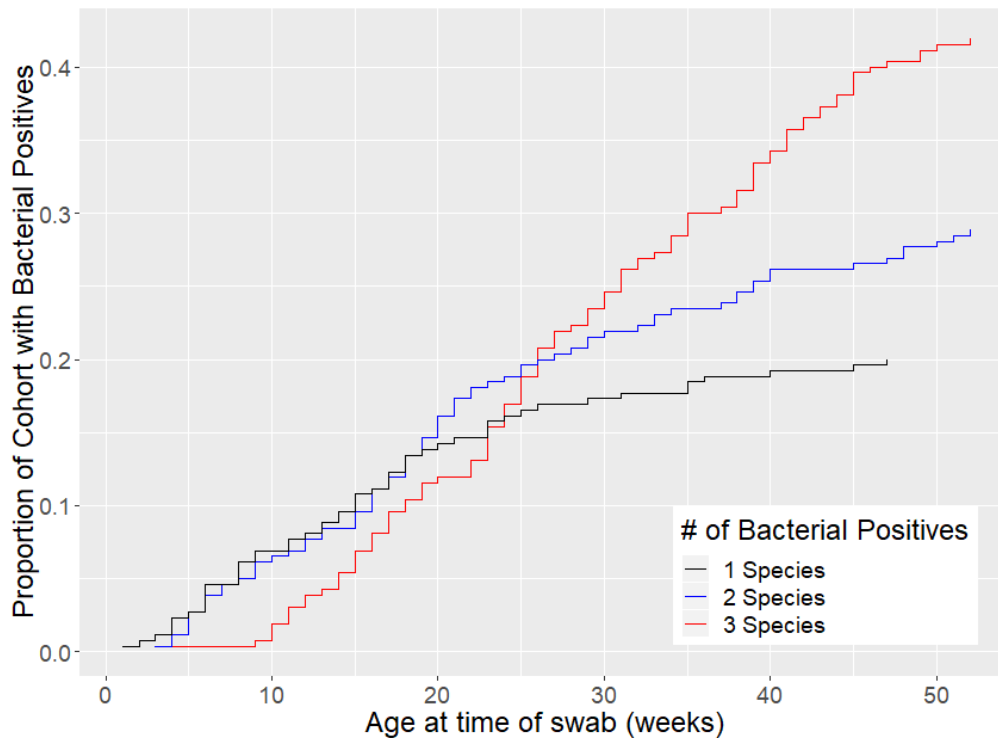


Supplementary Materials

Supplementary Table 1. MassTag PCR results, count of positives by arm of study and disease status (n = 260)

Arm (n)	All Samples		Cases		Controls	
	3 Stone (n = 122)	LPG (n = 138)	3 Stone (n = 67)	LPG (n = 63)	3 Stone (n = 55)	LPG (n = 75)
Rhinovirus	79	87	44	48	35	39
Influenza A	3	5	3	3	0	2
HPIV1	5	6	3	3	2	3
HPIV2	3	2	3	1	0	1
HPIV3	10	22	7	18	3	4
Metapneumovirus	4	1	4	0	0	1
Corona NL63	5	8	4	4	1	4
Corona OC43	5	0	4	0	1	0
RSVA	4	0	4	0	0	0
<i>H.influenzae</i>	89	67	54	26	35	41
<i>S. pneumoniae</i>	106	101	60	45	46	56
<i>M.catarrhalis</i>	94	72	57	38	37	34
Adenovirus	1	3	1	0	0	3

Supplementary Figure 1: Cumulative proportion of swabs (n = 260) that tested positive for bacterial species by child's age.



Supplementary Table 2. Variance in maternal exposure (CO) attributable to arm of study (stove assignment) and individual participant variability – all GRAPHS participants (N = 1414). R² calculated from linear mixed effects models.

Variable	R ²	Intraclass correlation (95% CI)
Arm of Study	0.025%	-
Participant random intercept	37.81%	0.102 (0.078-0.127)

Supplementary Table 3. Odds ratios from multinomial logistic regressions with corresponding p values. All models adjusted for age at swab, sex, and season swabbed.

# of bacterial species	Disease status	Recent Postnatal CO	p value	Mean Prenatal CO	p value	Postnatal Mean CO	p value
1	All Participants	1.55	0.038	0.92	0.789	1.41	0.133
	Cases	2.04	0.039	1.78	0.207	2.15	0.043
	Controls	1.28	0.383	0.48	0.139	1.07	0.837
2	All Participants	1.28	0.216	1.23	0.505	1.11	0.617
	Cases	1.19	0.556	1.97	0.144	1.08	0.811
	Controls	1.36	0.264	0.67	0.415	1.15	0.651
3	All Participants	1.30	0.177	1.24	0.484	1.27	0.275
	Cases	1.67	0.092	1.72	0.237	1.67	0.120
	Controls	1.13	0.661	0.86	0.773	1.00	0.986

Supplementary Table 4. Odds ratios from logistic regressions with corresponding p values. All models adjusted for age at swab, sex, and season swabbed.

Species presence	Disease status	Recent Postnatal CO	p value	Prenatal Mean CO	p value	Postnatal Mean CO	p value
<i>H. influenzae</i>	All Participants	1.14	0.22	1.20	0.29	1.20	0.106
	Cases	1.14	0.44	1.18	0.53	1.17	0.379
	Controls	1.15	0.33	1.26	0.36	1.22	0.200
<i>M. catarrhalis</i>	All Participants	0.85	0.15	1.26	0.20	0.90	0.359
	Cases	0.99	0.97	1.26	0.41	1.00	0.985
	Controls	0.83	0.22	1.23	0.41	0.85	0.333
<i>S. pneumoniae</i>	All Participants	1.12	0.39	0.99	0.96	1.01	0.947
	Cases	1.31	0.16	1.09	0.78	1.21	0.351
	Controls	1.03	0.86	0.86	0.62	0.86	0.487