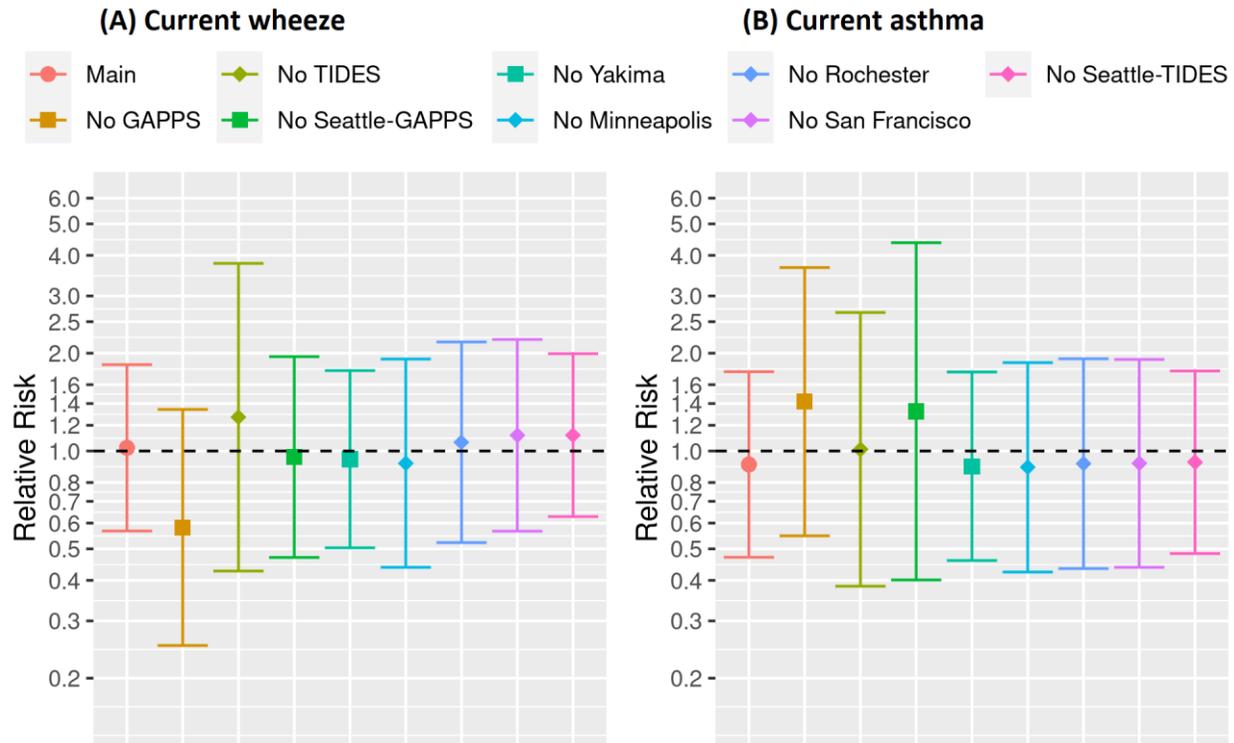


**Supplementary Figures and Tables**

**Supplementary Figure 1.** Association between maternal occupational exposure to cleaning chemicals during pregnancy and airway outcomes leave-one-cohort or leave-one-site out analyses.



**Supplementary Table 1.** Descriptive characteristics of the study population and larger combined cohort who attended age 4-6 study visits where airway outcomes were ascertained.

	<b>Included<sup>a</sup></b> <b>(N=453)</b>	<b>Excluded</b> <b>(N=782)</b>
<b>Maternal race</b>		
White	346 (76.4%)	555 (71.0%)
Black	20 (4.4%)	60 (7.7%)
Asian	24 (5.3%)	33 (4.2%)
Native Hawaiian/Other Pacific Islander	1 (0.2%)	1 (0.1%)
American Indian/Alaska Native	2 (0.4%)	7 (0.9%)
Other	26 (5.7%)	39 (5.0%)
Multiple race	16 (3.5%)	37 (4.7%)
Missing	18 (4.0%)	50 (6.4%)
<b>Maternal ethnicity</b>		
Hispanic or Latino	38 (8.4%)	92 (11.8%)
Not Hispanic or Latino	401 (88.5%)	654 (83.6%)
Missing	14 (3.1%)	36 (4.6%)
<b>Maternal education</b>		
Less than high school	14 (3.1%)	47 (6.0%)
High school	79 (17.4%)	189 (24.2%)
College/technical school	170 (37.5%)	291 (37.2%)

Graduate or Professional degree	190 (41.9%)	247 (31.6%)
Missing	0 (0%)	8 (1.0%)
<b>Maternal history of asthma</b>		
Yes	60 (13.2%)	100 (12.8%)
No	365 (80.6%)	652 (83.4%)
Missing	28 (6.2%)	30 (3.8%)
<b>Maternal Delivery Age (years)</b>		
Mean (SD)	32.1 (5.3)	31.0 (3.5)
	32.0 (29.0 –	31.0 (27.0–
Median (IQR)	36.0)	35.0)
Missing	29 (6.4%)	27 (3.5%)
<b>Child sex</b>		
Male	246 (54.3)	372 (47.6%)
Female	207 (45.7%)	410 (52.4%)
<b>Preterm birth</b>		
Yes	67 (14.8%)	105 (13.4%)
No	364 (80.4%)	658 (84.1%)
Missing	22 (4.9%)	19 (2.4%)
<b>Season of birth</b>		
Warm	237 (52.3%)	413 (52.8%)
Cold	216 (47.7%)	369 (47.2%)
<b>Birthweight (grams)</b>		
Mean (SD)	3252 (705.6)	3295 (672.0)
	3316 (2940 -	3354 (2963-
Median (IQR)	3710)	3695)
Missing	120 (26.5%)	17 (2.2%)
<b>Firstborn status</b>		
Yes	130 (28.7%)	233 (29.8%)
No	305 (67.3%)	542 (69.3%)
Missing	18 (4.0%)	7 (0.9%)
<b>Ever bronchiolitis</b>		
Yes	31 (6.8%)	62 (7.9%)
No	302 (66.7%)	625 (79.9%)
Missing	120 (26.5%)	95 (12.1%)
<b>Child age at 4-6 visit (years)</b>		
Mean (SD)	5.8 (0.7)	5.9 (0.7)
Median (IQR)	6 (5.3 – 6.2)	6.1 (5.3-6.4)
Missing	18 (4.0%)	0 (0%)
<b>Household size</b>		
<4	80 (17.7%)	146 (18.7%)
4	204 (45.0%)	290 (37.1%)
5	83 (18.3%)	143 (18.3%)
>5	50 (11.0%)	77 (9.8%)
Missing	36 (7.9%)	126 (16.1%)
<b>Adjusted income (\$USD)</b>		
Mean (SD)	\$114,004	\$94,870
	(\$56,745)	(\$59,076)
	\$110,813	\$82,987
Median (IQR)	(\$67,648 -	(\$46,820-

	\$172,511)	\$141,425)
Missing	32 (7.1%)	122 (15.6%)
<b>Smoking self-report</b>		
Yes	15 (3.3%)	31 (4.0%)
No	436 (96.2%)	737 (94.2%)
Missing	2 (0.4%)	14 (1.8%)
<b>Averaged cotinine</b>		
Mean (SD)	29.7 (169.2)	35.6 (176.6)
	0.01 (0.01 –	0.01 (0.01-
Median (IQR)	0.06)	0.3)
Missing	113 (24.9%)	145 (18.5%)
<b>Postnatal second-hand smoke exposure</b>		
Yes	127 (28.0%)	221 (28.3%)
No	300 (66.2%)	482 (61.6%)
Missing	16 (3.5%)	79 (10.1%)
<b>Cohort Site</b>		
<b>GAPPS</b>		
Seattle, WA	164 (36.2%)	162 (20.7%)
Yakima, WA	75 (16.6%)	230 (29.4%)
<b>TIDES</b>		
Minneapolis, MN	56 (12.4%)	105 (13.4%)
Rochester, NY	49 (10.8%)	114 (14.6%)
San Francisco, CA	63 (12.9%)	87 (11.1%)
Seattle, WA	46 (10.2%)	84 (10.7%)

<sup>a</sup>Participants were included if they had completed both the occupational exposure questionnaire and the International Study of Asthma and Allergies in Childhood (ISAAC) questionnaire at child age 4 – 6 years.

**Supplementary Table 2.** Association between maternal occupational exposure to cleaning chemicals during pregnancy and airway outcomes additionally adjusted for cotinine or bronchiolitis after exclusion of GAPPS age 4-6 recall surveys (N=357).

	<b>Main model<sup>a</sup></b>		<b>Main model<sup>a</sup> with cotinine</b>		<b>Main model<sup>a</sup> with bronchiolitis</b>		<b>Main model<sup>a</sup> with cotinine and bronchiolitis</b>	
	Adjusted RR (95% CI)	p-value	Adjusted RR (95% CI)	p-value	Adjusted RR (95% CI)	p-value	Adjusted RR (95% CI)	p-value
Primary outcomes								
Current wheeze	0.94 (0.50 – 1.79)	0.86	1.30 (0.54 – 3.14)	0.56	1.24 (0.63 – 2.46)	0.53	1.21 (0.61 – 2.41)	0.59
Current asthma	0.92 (0.48 – 1.75)	0.79	1.31 (0.54 – 3.19)	0.55	1.85 (0.78 – 4.43)	0.17	1.88 (0.78 – 4.55)	0.16

<sup>a</sup> Primary model was re-analyzed excluding the GAPPS 4-6 recall survey data

**Supplementary Table 3.** Association between maternal occupational exposure to cleaning chemicals during pregnancy and airway outcomes by classification of exposed status.

	<b>Cleaned floors, sinks, or toilets<sup>a</sup></b>		<b>Used janitorial chemicals or cleaners some days or every day<sup>b</sup></b>	
	Adjusted RR (95% CI)	p-value	Adjusted RR (95% CI)	p-value
Primary outcomes				
Current wheeze	0.81 (0.42 – 1.54)	0.52	1.39 (0.71 – 2.73)	0.34
Current asthma	0.88 (0.42 – 1.85)	0.74	1.03 (0.49 – 2.15)	0.95

<sup>a</sup> Association between prenatal maternal occupation exposure to cleaning chemicals and airway outcomes using the main model among those who answered “Yes” to “Did the biological mother do any of the following activities at her job during pregnancy: Clean floors, sinks, or toilets?”

<sup>b</sup> Association between prenatal maternal occupation exposure to cleaning chemicals and airway outcomes using the main model among those who answered “Some days” or “Every day” to “How often did the biological mother use janitorial chemicals or cleaners during pregnancy?”

**Supplementary Table 4.** Association between maternal occupational exposure to cleaning chemicals during pregnancy and airway outcomes adjusted by child age at recall questionnaire completion visit.

	<b>Main model adjusted by child age at recall questionnaire completion visit</b>	
Primary outcomes	Adjusted RR (95% CI)	p-value
Current wheeze	1.03 (0.54 – 1.97)	0.92
Current asthma	0.89 (0.43 – 1.81)	0.74

**Supplementary Table 5.** Association between maternal occupational exposure to cleaning chemicals during pregnancy and airway outcomes main model without using multiple imputation by chained equations (MICE).

	<b>Main model without MICE</b>	
Primary outcomes	Adjusted RR (95% CI)	p-value
Current wheeze	0.87 (0.41 – 1.85)	0.72
Current asthma	0.80 (0.36 – 1.76)	0.58