

177 **Figure E1.** Sensitivity analyses for confounding between respiratory syncytial virus  
178 (RSV)-only and rhinovirus (RV)-only severe bronchiolitis and the relative composition of  
179 the nasopharyngeal microbiota in children hospitalized with bronchiolitis

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181 Each bar graph depicts the p-value for the partial F-statistic for RSV-only and RV-only  
182 infection after controlling for the covariates of interest. In each two-way linear model the  
183 exposures are the virus and the covariate of interest; the outcome in each model is the  
184 difference in the relative composition of Proteobacteria and Firmicutes. The bar plot  
185 demonstrates that the significant virus-microbiota association does not diminish with any  
186 of the covariates tested. Therefore, the association between virus and nasopharyngeal  
187 microbiota is not confounded by the tested covariates.

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190 **Table E1.** Comparison of children hospitalized for bronchiolitis enrolled in the two  
 191 severe bronchiolitis studies  
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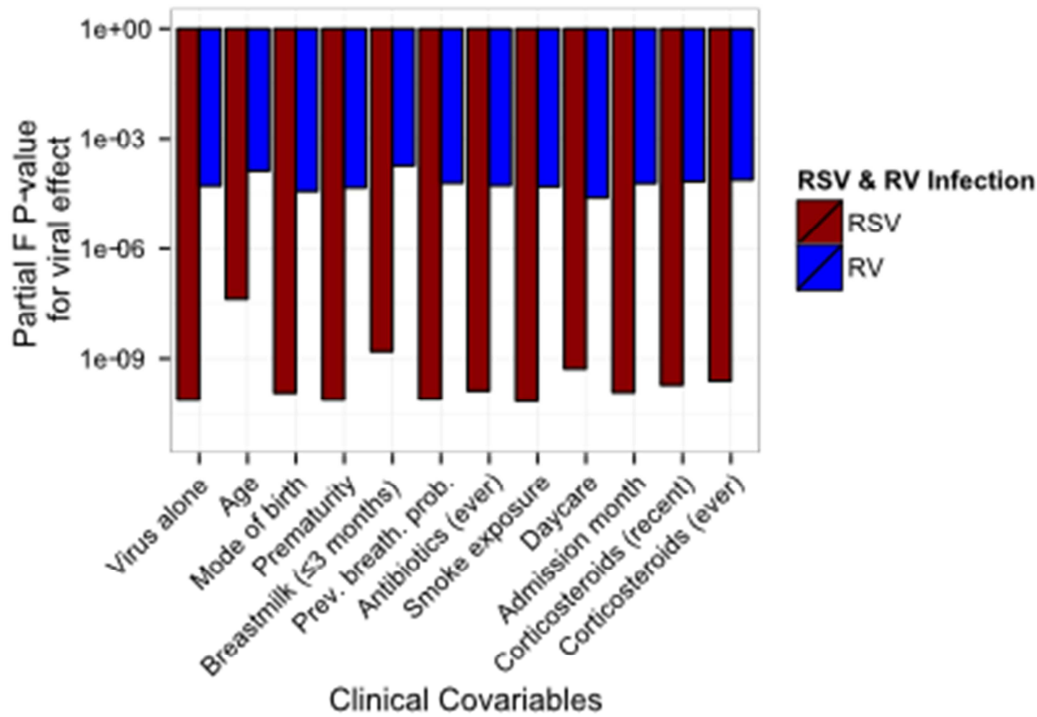
| <b>Characteristics<sup>a</sup></b>                                     | <b>MARC-35</b><br>(n=1005) | <b>MARC-30</b><br>(n=307) | <b>P-value</b> |
|--|----------------------------|---------------------------|----------------|
| Age at enrollment in months, median (IQR)                              | 3.2 (1.6-5.9)              | 2.1 (1.2-5.0)             | <0.001         |
| Male sex   | 603 (60)                   | 181 (59)                  | 0.74           |
| Race/ethnicity   |                            |                           | 0.19           |
| Non-Hispanic white   | 428 (43)                   | 118 (39)                  |                |
| Non-Hispanic black   | 233 (23)                   | 62 (20)                   |                |
| Hispanic   | 306 (30)                   | 112 (37)                  |                |
| Other  | 38 (4)                     | 13 (4)                    |                |
| Insurance type   |                            |                           | <0.001         |
| Public   | 600 (60)                   | 189 (62)                  |                |
| Private  | 386 (38)                   | 97 (32)                   |                |
| None   | 17 (2)                     | 17 (6)                    |                |
| Parent history of asthma   | 341 (34)                   | 106 (35)                  | 0.70           |
| Maternal prenatal smoking  | 144 (15)                   | 51 (17)                   | 0.38           |
| Prematurity ( $\leq 37$ weeks)   | 183 (18)                   | 101 (33)                  | <0.001         |
| History of eczema  | 146 (15)                   | 39 (13)                   | 0.49           |
| Daycare attendance   | 230 (23)                   | 46 (15)                   | 0.003          |
| Other children in home   | 799 (80)                   | 252 (82)                  | 0.32           |
| Mechanical ventilation during hospitalization (CPAP and/or intubation) | 54 (5%)                    | 152 (50%)                 | <0.001         |

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 194 Abbreviations: IQR, interquartile range; MARC-35, 35<sup>th</sup> Multicenter Airway Research  
 195 Collaboration; MARC-30, 30<sup>th</sup> Multicenter Airway Research Collaboration

196 <sup>a</sup>Data were expressed as n (%) unless otherwise indicated.  
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Each bar graph depicts the p-value for the partial F-statistic for RSV-only and RV-only infection after controlling for the covariates of interest. In each two-way linear model the exposures are the virus and the covariate of interest; the outcome in each model is the difference in the relative composition of Proteobacteria and Firmicutes. The bar plot demonstrates that the significant virus-microbiota association does not diminish with any of the covariates tested. Therefore, the association between virus and nasopharyngeal microbiota is not confounded by the tested covariates.