

## **Online Supplement**

### **Original Research**

#### **Childhood Cigarette Smoking and Risk of COPD in Older United States Adults: A Nationally Representative Replication Study**

Jenny E. Ozga, PhD<sup>1</sup> James D. Sargent, MD<sup>2</sup> Alexander W. Steinberg, MD<sup>3</sup> Zhiqun Tang, PhD<sup>1</sup>  
Cassandra A. Stanton, PhD<sup>1</sup> Laura M. Paulin, MD, MHS<sup>3</sup>

<sup>1</sup>Westat, Behavioral Health and Health Policy, Rockville, Maryland, United States

<sup>2</sup>Departments of Pediatrics and Biomedical Data Sciences, Geisel School of Medicine, Hanover, New Hampshire, United States

<sup>3</sup>Section of Pulmonary and Critical Care, Department of Medicine, Dartmouth-Hitchcock Medical Center, Lebanon, New Hampshire, United States

**Supplemental Table 1.** Multivariable associations between childhood smoking and COPD risk.

		Weighted % with COPD	ARR <sup>1</sup>	95% CI	p-value
<b>Age of initiation</b>	20+	20.3	Ref	Ref	Ref
	15-19	21.5	1.15	0.94, 1.40	>0.05
	<15	29.0	1.40	<b>1.13, 1.75</b>	<b>&lt;0.01</b>
<b>Smoking status</b>	Never smoking	7.5	0.56	<b>0.44, 0.72</b>	<b>&lt;0.001</b>
	Never+former smoking	11.7	Ref	Ref	Ref
	Current smoking	27.7	1.39	<b>1.21, 1.60</b>	<b>&lt;0.001</b>
<b>Cigarette pack-years<sup>2</sup></b>			1.02	<b>1.01, 1.03</b>	<b>&lt;0.001</b>
<b>Second-hand smoke exposure<sup>3</sup></b>			1.03	<b>1.02, 1.03</b>	<b>&lt;0.001</b>

ARR=adjusted relative risk; <sup>1</sup>Adjusted also for age, sex, race, household income, and urbanicity; <sup>2</sup>Represents increased risk associated with each additional 10 pack-years (includes never-smoking respondents as having 0 pack-years); <sup>3</sup>Represents the increased risk associated with each additional 5 hours of second-hand smoke exposure in the past 7 days.

**Supplemental Table 2.** Distributions for cigarette pack-years and cigarette smoking duration.

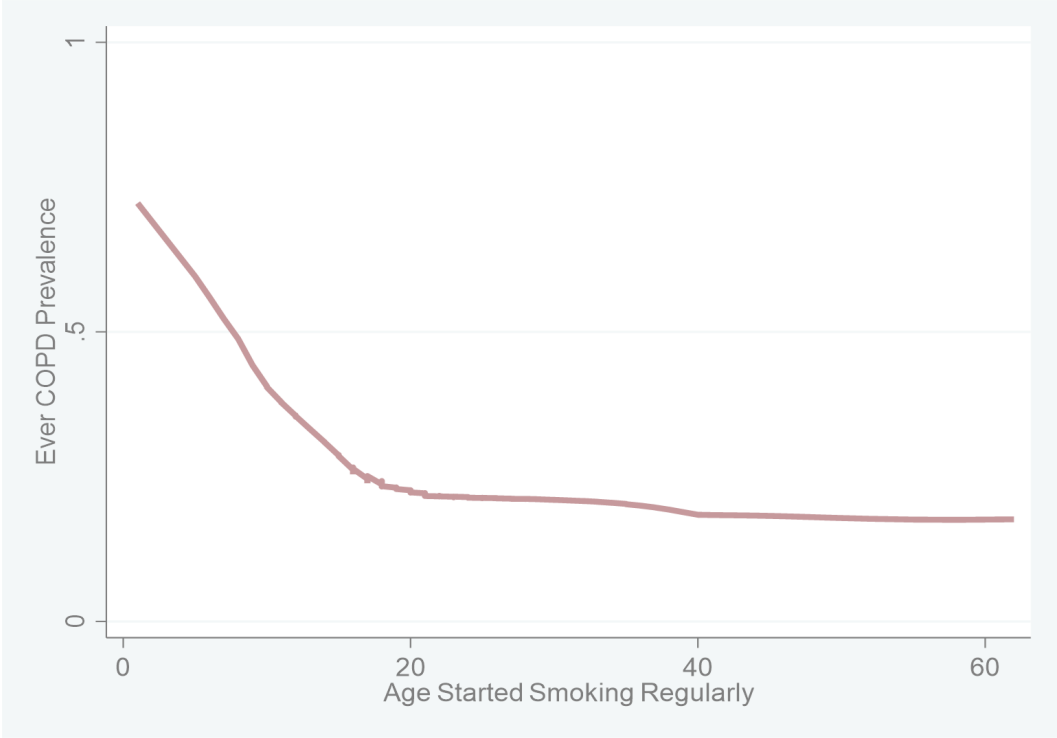
	<b>Among full sample (including adults reporting never smoking)</b>		<b>Among adults who ever smoked cigarettes</b>	
	Pack-years	Smoking duration	Pack-years	Smoking duration
1%	0.0	0.00	0.4	1.5
5%	0.0	0.00	1.5	3.0
10%	0.0	0.00	3.0	4.0
25%	0.0	0.00	10.5	19.0
50%	0.9	2.00	25.0	30.0
Mean (SD)	22.6 (45.8)	19.7 (18.5)	35.1 (53.0)	29.1 (15.2)
75%	31.5	35.7	42.0	40.4
90%	53.0	45.0	66.0	47.5
95%	74.0	49.2	88.0	52.0
99%	168.0	59.0	459.8	60.0

**Supplemental Table 3.** Multivariable associations between childhood smoking and COPD, substituting cigarette smoking duration for cigarette pack-years.

<b>S3a. Continuous smoking duration substituted for pack-years</b>					
		Weighted % with COPD	ARR <sup>1</sup>	95% CI	p-value
<b>Age of initiation</b>	15+	21.1	Ref	Ref	Ref
	<15	29.0	1.16	0.99, 1.36	>0.05
	Never smoking	7.5	0.82	0.61, 1.09	>0.05
<b>Smoking status</b>	Never+former smoking	11.7	Ref	Ref	Ref
	Current smoking	27.7	0.94	0.81, 1.09	>0.05
<b>Cigarette smoking duration<sup>2</sup></b>			1.26	1.17, 1.36	<0.001
<b>Second-hand smoke exposure<sup>3</sup></b>			1.03	1.02, 1.04	<0.001
<b>S3b. Dichotomous smoking duration substituted for pack-years</b>					
		Weighted % with COPD	ARR <sup>1</sup>	95% CI	p-value
<b>Age of initiation</b>	15+	21.1	Ref	Ref	Ref
	<15	29.0	<b>1.25</b>	<b>1.06, 1.46</b>	<b>&lt;0.01</b>
	Never smoking	7.5	<b>0.65</b>	<b>0.49, 0.86</b>	<b>&lt;0.01</b>
<b>Smoking status</b>	Never+former	11.7	Ref	Ref	Ref
	Current	27.7	1.05	0.92, 1.21	>0.05
<b>Cigarette smoking duration</b>	25+ years	19.6	Ref	Ref	Ref
	<25 years <sup>4</sup>	9.0	<b>0.51</b>	<b>0.40, 0.66</b>	<b>&lt;0.001</b>
<b>Second-hand smoke exposure<sup>3</sup></b>			<b>1.03</b>	<b>1.02, 1.04</b>	<b>&lt;0.001</b>

ARR=adjusted relative risk; Bolded values denote statistical significance; <sup>1</sup>Adjusted also for age, sex, race, household income, and urbanicity; <sup>2</sup>Represents increased risk associated with each additional 10 years of smoking (includes never-smoking respondents as having 0 years smoking duration); <sup>3</sup>Represents the increased risk associated with each additional 5 hours of second-hand smoke exposure in the past 7 days; <sup>4</sup>Includes never-smoking respondents

**Supplemental Figure 1.** Lowess curve showing COPD prevalence (%) as a function of age of cigarette smoking initiation (years).



**Supplemental Figure 2.** Lowess curves showing the relationship between cigarette smoking duration and COPD prevalence (%) for adults who smoked for <25 years (left panel) versus 25+ years (right panel).

