

# Childhood wheezing illness: age-related changes in the clinical picture

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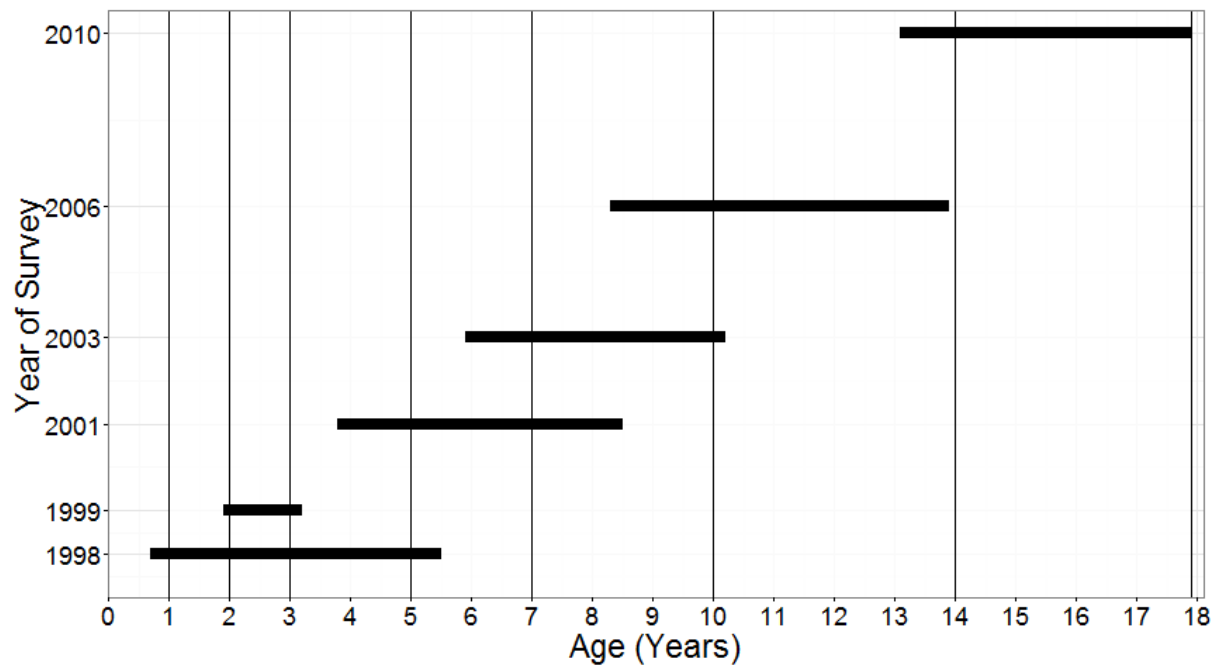
## ONLINE SUPPLEMENT

## Number of Figures and Tables

1 figure, 10 tables

## FIGURE

**Fig. E1. Age of the children of the Leicester Respiratory Cohorts participating in the respective surveys;** The bands on the x-axis show the seven age groups used for the analysis (1, 2, 3-4, 5-6, 7-9, 10-13, and 14-17 year-olds). The y-axis shows the years when surveys were conducted. In 1999, only those who responded in 1998 and were born in years 1996-7 (age 1 at the first survey) were included.



## TABLES

**Table E1—Response rates for questionnaire surveys**

Year of survey	N <sub>contacted</sub>	N <sub>replied</sub>	Response rate A % <sup>c</sup>	Response rate B % <sup>d</sup>	Age of the child when questionnaire was filled in (years)
1998	8,700 <sup>a</sup>	6,808	78.3	78.3	0.7 to 5.5
1999 <sup>b</sup>	3,241	2,407	74.3	- <sup>b</sup>	1.9 to 3.2
2001	8,225	5,212	63.4	59.9	3.9 to 8.5
2003	8,283	4,236	51.1	48.7	5.9 to 10.2
2006	8,233	3,028	36.7	34.8	8.3 to 13.9
2010	7,642	2,544	33.3	29.2	13.1 to 17.9

<sup>a</sup> After the age of 5 years, the address database was not updated, thus we did not have valid addresses for all children and not all 8,700 children were contacted at different surveys

<sup>b</sup> Questionnaire only for a subsample, for those who were aged 1 year in 1998 and had replied to the questionnaire in 1998

<sup>c</sup> Response rate A: number of participants who replied/ number of participants who were contacted at the respective survey (for instance for the 2010 survey: 2,544/7,642)

<sup>d</sup> Response rate B: number of participants who replied/ number of originally sampled children (for instance for the 2010 survey: 2,544/8,700).

**Table E2—Age-related change in prevalence of wheeze (current, episodic viral, and multiple trigger) in entire cohort, presented as OR for different age groups\***

Age groups (years)	Wheeze		Episodic viral wheeze		Multiple trigger wheeze	
	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)
<b>1</b>	2.7	(2.4-2.9)	3.1	(2.8-3.5)	1.5	(1.4-1.8)
<b>2</b>	1.5	(1.4-1.7)	1.9	(1.6-2.1)	1.0	(0.8-1.2)
<b>3-4</b>	1.2	(1.1-1.4)	1.3	(1.1-1.5)	1.1	(0.9-1.2)
<b>5-6 (reference)</b>	1.0		1.0		1.0	
<b>7-9</b>	0.8	(0.8-0.9)	0.6	(0.5-0.7)	1.2	(1.0-1.3)
<b>10-13</b>	1.0	(0.9-1.2)	0.7	(0.6-0.9)	1.4	(1.2-1.6)
<b>14-17</b>	1.0	(0.9-1.2)	0.7	(0.6-0.9)	1.4	(1.2-1.7)

\*Age-related change: test for the significance of change in prevalence with age for each of the symptoms, calculated with GEE and presented as odds ratio of change in prevalence per age group with respective p-values, accounting for repeated nature of measurements and clustered data. Baseline group: 5-6-year-old children. All symptoms refer to the past 12 months.  
OR, odds ratio (GEE, generalised estimating equations, analysis)

**Table E3—Age-related change in prevalence of wheeze with triggers in entire cohort, presented as OR, for different age groups\***

<b>Age groups (years)</b>	<b>Exercise</b>		<b>Aeroallergens</b>		<b>Food/drinks</b>		<b>Laughing/crying</b>	
	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)
<b>1</b>	1.1	(0.9-1.2)	0.3	(0.2-0.4)	1.7	(1.3-2.3)	2.6	(2.2-3.1)
<b>2</b>	1.0	(0.9-1.2)	0.4	(0.3-0.5)	1.1	(0.7-1.5)	1.4	(1.2-1.8)
<b>3-4</b>	1.0	(0.9-1.2)	0.9	(0.7-1.0)	0.9	(0.6-1.3)	0.9	(0.7-1.1)
<b>5-6 (reference)</b>	1.0		1.0		1.0		1.0	
<b>7-9</b>	1.1	(1.0-1.3)	1.2	(1.0-1.4)	1.0	(0.7-1.4)	0.8	(0.6-1.0)
<b>10-13</b>	1.5	(1.3-1.8)	1.7	(1.4-2.0)	1.2	(0.8-1.7)	1.4	(1.1-1.8)
<b>14-17</b>	1.8	(1.6-2.1)	1.7	(1.4-2.0)	0.8	(0.5-1.3)	1.8	(1.4-2.2)

\*Age-related change: test for the significance of change in prevalence with age for each of the symptoms, calculated with GEE and presented as odds ratio of change in prevalence per age group with respective p-values, accounting for repeated nature of measurements and clustered data. Baseline group: 5-6-year-old children. All symptoms refer to the past 12 months.

OR, odds ratio (GEE, generalised estimating equations, analysis)

**Table E4—Age-related change in prevalence of indicators of wheeze severity in entire cohort, presented as OR, for different age groups\***

Age groups (years)	Frequent wheeze <sup>a</sup>		Shortness of breath <sup>b</sup>		Sleep disturbance <sup>c</sup>		Daily activities disturbance <sup>d</sup>	
	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)
<b>1</b>	2.1	(1.8-2.4)	0.8	(0.6-1.1)	2.5	(2.1-3.0)	1.4	(1.1-1.7)
<b>2</b>	1.4	(1.2-1.6)	0.8	(0.6-1.2)	1.4	(1.2-1.8)	1.0	(0.8-1.3)
<b>3-4</b>	1.3	(1.1-1.5)	1.2	(0.8-1.7)	1.2	(1.0-1.5)	1.2	(0.9-1.4)
<b>5-6 (reference)</b>	1.0		1.0		1.0		1.0	
<b>7-9</b>	1.0	(0.9-1.2)	1.0	(0.7-1.4)	0.8	(0.6-1.0)	0.9	(0.7-1.1)
<b>10-13</b>	0.9	(0.7-1.1)	1.2	(0.8-1.7)	0.6	(0.5-0.9)	0.7	(0.5-1.0)
<b>14-17</b>	0.9	(0.7-1.1)	1.6	(1.1-2.2)	0.5	(0.4-0.8)	0.6	(0.5-0.9)

\*Age-related change: test for the significance of change in prevalence with age for each of the symptoms, calculated with GEE and presented as odds ratio of change in prevalence per age group with respective p-values, accounting for repeated nature of measurements and clustered data. Baseline group: 5-6-year-old children. All symptoms refer to the past 12 months.

<sup>a</sup> Frequent wheeze ( $\geq 4$  wheeze attacks in past 12 months)

<sup>b</sup> Wheeze always causing shortness of breath

<sup>c</sup> Sleep disturbed due to wheeze ( $>1$ /week)

<sup>d</sup> At least moderate disturbance of daily activities due to wheeze  
OR, odds ratio (GEE, generalised estimating equations, analysis)

**Table E5—Age-related change in prevalence of wheeze phenotypes (episodic viral and multiple trigger) among children with current wheeze, presented as OR, for different age groups\***

Age groups (years)	Episodic viral wheeze		Multiple trigger wheeze	
	OR	(95% CI)	OR	(95% CI)
<b>1</b>	1.6	(1.3-1.9)	0.6	(0.5-0.7)
<b>2</b>	1.7	(1.4-2.1)	0.6	(0.5-0.7)
<b>3-4</b>	1.1	(0.9-1.4)	0.9	(0.7-1.1)
<b>5-6 (reference)</b>	1.0		1.0	
<b>7-9</b>	0.5	(0.4-0.7)	1.8	(1.4-2.3)
<b>10-13</b>	0.5	(0.4-0.7)	1.8	(1.4-2.3)
<b>14-17</b>	0.5	(0.4-0.7)	1.9	(1.5-2.5)

\*Age-related change: test for the significance of change in prevalence with age for each of the symptoms, calculated with GEE and presented as odds ratio of change in prevalence per age group with respective p-values, accounting for repeated nature of measurements and clustered data. Baseline group: 5-6-year-old children. All symptoms refer to the past 12 months.

OR, odds ratio (GEE, generalised estimating equations, analysis)

**Table E6—Age-related change in prevalence of wheeze with triggers among children with current wheeze, presented as OR, for different age groups\***

<b>Age groups (years)</b>	<b>Exercise</b>		<b>Aeroallergens</b>		<b>Food/drinks</b>		<b>Laughing/crying</b>	
	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)
<b>1</b>	0.4	(0.3-0.5)	0.1	(0.1-0.2)	0.8	(0.6-1.1)	1.0	(0.8-1.3)
<b>2</b>	0.6	(0.5-0.8)	0.2	(0.2-0.3)	0.8	(0.5-1.1)	1.0	(0.7-1.2)
<b>3-4</b>	0.8	(0.6-1.0)	0.7	(0.6-0.9)	0.8	(0.6-1.2)	0.9	(0.7-1.2)
<b>5-6 (reference)</b>	1.0		1.0		1.0		1.0	
<b>7-9</b>	1.6	(1.3-2.0)	1.7	(1.3-2.1)	1.1	(0.8-1.7)	0.9	(0.7-1.3)
<b>10-13</b>	2.1	(1.6-2.6)	2.3	(1.8-2.9)	1.1	(0.8-1.7)	0.9	(0.7-1.2)
<b>14-17</b>	3.6	(2.7-4.7)	2.4	(1.9-3.1)	0.7	(0.4-1.1)	1.2	(0.9-1.6)

\*Age-related change: test for the significance of change in prevalence with age for each of the symptoms, calculated with GEE and presented as odds ratio of change in prevalence per age group with respective p-values, accounting for repeated nature of measurements and clustered data. Baseline group: 5-6-year-old children. All symptoms refer to the past 12 months.

OR, odds ratio (GEE, generalised estimating equations, analysis)



**Table E7—Age-related change in prevalence of indicators of wheeze severity among children with current wheeze, presented as OR, for different age groups\***

Age groups (years)	Frequent wheeze <sup>a</sup>		Shortness of breath <sup>b</sup>		Sleep disturbance <sup>c</sup>		Daily activities disturbance <sup>d</sup>	
	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)
<b>1</b>	1.0	(0.9-1.2)	0.4	(0.2-0.5)	1.4	(1.1-1.7)	0.7	(0.6-0.9)
<b>2</b>	1.0	(0.8-1.2)	0.6	(0.4-0.9)	1.1	(0.9-1.4)	0.8	(0.6-1.0)
<b>3-4</b>	1.2	(1.0-1.5)	1.0	(0.7-1.6)	1.1	(0.9-1.5)	1.1	(0.8-1.3)
<b>5-6 (reference)</b>	1.0		1.0		1.0		1.0	
<b>7-9</b>	1.3	(1.1-1.7)	1.1	(0.7-1.6)	0.9	(0.7-1.2)	1.0	(0.7-1.3)
<b>10-13</b>	0.8	(0.6-1.1)	1.2	(0.8-1.9)	0.6	(0.4-0.9)	0.7	(0.5-1.0)
<b>14-17</b>	0.8	(0.6-1.0)	1.7	(1.2-2.6)	0.5	(0.3-0.7)	0.6	(0.4-0.9)

\*Age-related change: test for the significance of change in prevalence with age for each of the symptoms, calculated with GEE and presented as odds ratio of change in prevalence per age group with respective p-values, accounting for repeated nature of measurements and clustered data. Baseline group: 5-6-year-old children. All symptoms refer to the past 12 months.

<sup>a</sup> Frequent wheeze ( $\geq 4$  wheeze attacks in past 12 months)

<sup>b</sup> Wheeze always causing shortness of breath

<sup>c</sup> Sleep disturbed due to wheeze ( $>1$ /week)

<sup>d</sup> At least moderate disturbance of daily activities due to wheeze  
OR, odds ratio (GEE, generalised estimating equations, analysis)

**Table E8—Unweighted and weighted prevalence of wheeze, episodic viral and multiple trigger wheeze, wheeze with different triggers, and indicators of severe wheeze in the entire cohort of children (absolute prevalence)**

Age group	1-year-olds (N=4,102)	2-year-olds (N=3,163)	3-4-year-olds (N=4,071)	5-6-year-olds (N=4,031)	7-9-year-olds (N=3,244)	10-13-year-olds (N=2,204)	14-17-year-olds (N=2,025)
	% (CI)	% (CI)	% (CI)	% (CI)	% (CI)	% (CI)	% (CI)
Wheeze	35.8(34.3-37.3)	24.0(22.5-25.5)	20.1(18.9-21.3)	16.9(15.8-18.1)	14.5(13.2-15.7)	16.6(15.0-18.1)	16.7(15.1-18.4)
Weighted:	37.1(35.5-38.7)	25.0(23.3-26.6)	20.4(19.0-21.8)	18.2(16.6-19.9)	15.4(13.5-17.4)	16.1(13.9-18.3)	18.5(16.3-20.8)
Episodic viral wheeze	23.8(22.5-25.2)	15.8(14.5-17.1)	11.2(10.2-12.2)	9.0(8.1-9.9)	5.4(4.6-6.2)	6.4(5.4-7.5)	6.5(5.3-7.7)
Weighted:	24.3(22.9-25.7)	16.1(14.8-17.5)	11.2(10.1-12.3)	9.2(8.1-10.4)	6.0(4.7-7.3)	6.1(4.7-7.5)	7.1(5.5-8.6)
Multiple trigger wheeze	11.5(10.5-12.4)	7.6(6.6-8.5)	8.0(7.2-8.9)	7.5(6.8-8.4)	8.5(7.5-9.5)	9.6(8.4-10.9)	9.7(8.3-11.0)
Weighted:	12.2(11.1-13.3)	8.1(7.1-9.2)	8.3(7.3-9.3)	8.5(7.2-9.8)	9.0(7.4-10.5)	9.7(8.0-11.5)	11.1(9.2-13.1)
<b>Wheeze, triggered by:</b>							
Exercise	8.6(7.7-9.4)	8.2(7.2-9.2)	7.9(7.0-8.7)	7.8(6.9-8.6)	8.5(7.5-9.4)	11.0(9.7-12.3)	12.9(11.5-14.4)
Weighted:	9.4(8.4-10.4)	8.6(7.6-9.7)	8.3(7.3-9.3)	9.2(7.8-10.6)	9.7(8.0-11.5)	11.1(9.2-13.0)	14.7(12.6-16.8)
Aeroallergens	2.0(1.6-2.5)	2.5(1.9-3.0)	5.2(4.5-5.9)	6.0(5.3-6.8)	7.0(6.1-7.8)	9.5(8.3-10.8)	9.5(8.2-10.8)
Weighted:	2.2(1.7-2.7)	2.7(2.0-3.3)	5.4(4.6-6.2)	7.5(6.1-8.8)	7.5(5.9-9.1)	9.4(7.6-11.1)	10.6(8.8-12.4)
Food/drinks	2.7(2.2-3.2)	1.6(1.2-2.1)	1.3(1.0-1.7)	1.5(1.1-1.9)	1.6(1.2-2.0)	1.7(1.2-2.3)	1.3(0.8-1.8)
Weighted:	3.0(2.4-3.6)	1.5(1.0-2.0)	1.6(1.1-2.1)	1.7(1.2-2.2)	1.6(1.1-2.1)	1.8(0.9-2.6)	1.4(0.6-2.2)
Laughing/crying	10.3(9.3-11.3)	5.7(4.9-6.6)	3.1(2.6-3.7)	3.7(3.1-4.3)	2.5(2.0-3.1)	4.8(3.9-5.7)	6.0(4.9-7.0)
Weighted:	11.1(10.0-12.1)	6.2(5.2-7.2)	3.7(2.9-4.5)	4.7(3.6-5.9)	3.1(2.2-4.0)	5.5(4.0-6.9)	6.3(5.0-7.7)
<b>Indicators of severe wheeze</b>							
Frequent wheeze <sup>a</sup>	12.5(11.5-13.6)	8.4(7.4-9.4)	8.1(7.2-8.9)	6.4(5.6-7.2)	6.6(5.7-7.4)	5.4(4.4-6.3)	5.3(4.3-6.3)
Weighted:	13.3(12.2-14.4)	8.8(7.7-9.9)	8.0(7.1-9.0)	7.4(6.1-8.6)	7.0(5.5-8.5)	6.0(4.5-7.4)	6.1(4.6-7.7)
Shortness of breath <sup>b</sup>	2.4(1.9-2.9)	2.5(1.9-3.0)	3.6(2.8-4.3)	2.9(2.1-3.8)	2.8(2.2-3.4)	3.5(2.7-4.3)	4.5(3.5-5.4)
Weighted:	2.5(1.9-3.0)	2.6(2.0-3.2)	3.6(2.7-4.4)	2.9(2.0-3.8)	2.5(1.9-3.2)	3.6(2.5-4.7)	4.7(3.5-6.0)
Sleep disturbance <sup>c</sup>	8.6(7.8-9.5)	5.0(4.3-5.8)	4.4(3.8-5.1)	3.6(3.0-4.2)	2.8(2.2-3.4)	2.2(1.5-2.8)	1.9(1.3-2.5)
Weighted:	9.3(8.3-10.2)	5.5(4.7-6.4)	4.8(4.0-5.6)	5.0(3.8-6.2)	3.0(2.0-4.1)	2.5(1.5-3.5)	2.1(1.3-2.9)
Daily activities disturbance <sup>d</sup>	4.6(4.0-5.3)	3.4(2.8-4.0)	4.0(3.4-4.6)	3.5(3.0-4.1)	3.0(2.4-3.6)	2.3(1.7-3.0)	2.0(1.4-2.6)
Weighted:	4.9(4.2-5.7)	3.8(3.1-4.6)	4.2(3.5-4.9)	4.5(3.4-5.5)	3.0(2.0-4.0)	3.2(1.9-4.4)	2.7(1.7-3.7)

<sup>a</sup> Frequent wheeze ( $\geq 4$  wheeze attacks in past 12 months)

<sup>b</sup> Wheeze always causing shortness of breath

<sup>c</sup> Sleep disturbed due to wheeze ( $>1$ /week)

<sup>d</sup> At least moderate disturbance of daily activities due to wheeze

All wheezing characteristics refer to the past 12 months.

**Table E9—Unweighted and weighted prevalence of wheeze, episodic viral and multiple trigger wheeze, wheeze with different triggers, and indicators of severe wheeze among children with any current wheeze (relative prevalence)**

Age group	1-year-olds (N <sub>cw</sub> =1447)	2-year-olds (N <sub>cw</sub> =744)	3-4-year-olds (N <sub>cw</sub> =810)	5-6-year-olds (N <sub>cw</sub> =675)	7-9-year-olds (N <sub>cw</sub> =465)	10-13-year-olds (N <sub>cw</sub> =362)	14-17-year-olds (N <sub>cw</sub> =336)
	% (CI)	% (CI)	% (CI)	% (CI)	% (CI)	% (CI)	% (CI)
Episodic viral wheeze	67.5(65.1-70.0)	67.6(64.2-71.0)	58.2(54.7-61.7)	54.4(50.5-58.2)	38.7(34.2-43.2)	40.1(34.9-45.2)	40.0(34.5-45.5)
Weighted:	66.6(63.9-69.1)	66.5(62.7-70.1)	57.5(53.5-61.4)	52.1(46.9-57.3)	40.0(33.0-46.9)	38.5(31.2-45.7)	38.9(31.8-45.9)
Multiple trigger wheeze	32.5(30.0-34.9)	32.4(29.0-35.8)	41.8(38.3-45.3)	45.6(41.8-49.5)	60.9(56.3-65.4)	59.9(54.8-65.1)	60.0(54.5-65.5)
Weighted:	33.4(30.9-36.1)	33.5(29.9-37.3)	42.5(38.5-46.4)	47.9(42.7-53.0)	59.7(52.7-66.7)	61.5(54.3-68.8)	61.1(54.1-68.2)
<b>Wheeze, triggered by:</b>							
Exercise	25.9(23.5-28.3)	37.6(33.8-41.3)	43.8(40.2-47.7)	50.4(46.4-54.4)	62.1(57.5-66.7)	66.5(61.6-71.4)	77.5(73.0-82.0)
Weighted:	27.5(24.9-30.1)	38.0(34.1-41.9)	45.2(41.0-49.3)	54.6(49.3-59.9)	66.0(59.7-72.2)	69.0(62.4-75.7)	79.0(73.6-84.5)
Aeroallergens	6.2(4.9-7.6)	11.8(9.3-14.3)	30.2(26.7-33.7)	39.0(35.1-42.9)	51.8(49.1-58.9)	58.4(53.2-63.6)	57.7(52.3-63.0)
Weighted:	6.7(5.2-8.2)	12.1(9.4-14.8)	30.7(26.8-34.6)	44.4(38.9-50.0)	51.7(44.4-59.0)	59.0(51.7-66.2)	57.7(50.7-64.7)
Food/drinks	8.2(6.7-9.7)	7.7(5.6-9.7)	8.0(5.9-10.1)	10.2(7.7-12.7)	12.6(9.4-15.9)	11.1(7.8-14.5)	8.1(5.1-11.1)
Weighted:	8.9(7.2-10.6)	6.9(4.8-9.1)	9.3(6.5-12.0)	10.6(7.5-13.8)	12.3(8.4-16.1)	12.0(6.7-17.3)	8.0(3.8-12.2)
Laughing/crying	34.0(31.3-36.8)	32.5(28.4-36.6)	32.6(27.6-37.5)	35.4(30.6-40.2)	30.4(24.7-36.1)	30.8(25.8-35.8)	36.6(31.4-41.9)
Weighted:	35.3(32.4-38.2)	33.2(28.8-37.6)	34.8(28.8-40.7)	39.7(32.4-47.0)	34.9(26.8-43.0)	36.6(29.0-44.2)	35.1(28.5-41.6)
<b>Indicators of severe wheeze</b>							
Frequent wheeze <sup>a</sup>	35.1(32.6-37.6)	35.4(31.9-38.9)	39.8(36.4-43.1)	37.2(33.6-40.9)	45.0(40.5-49.6)	32.1(27.3-37.0)	31.6(26.6-36.6)
Weighted:	35.9(33.3-38.5)	35.7(32.0-39.3)	38.7(35.0-42.5)	40.0(34.7-45.1)	44.7(37.7-51.6)	36.3(29.2-43.5)	33.0(26.1-39.9)
Shortness of breath <sup>b</sup>	6.7(5.4-8.0)	10.4(8.2-12.6)	17.2(13.7-20.8)	17.4(12.9-21.9)	18.6(15.0-22.3)	20.5(16.3-24.7)	25.9(21.2-30.7)
Weighted:	6.7(5.3-8.0)	10.4(8.1-12.8)	17.1(13.4-20.8)	17.1(12.1-22.1)	15.9(11.7-20.1)	21.7(15.7-27.7)	24.9(19.0-30.8)
Sleep disturbance <sup>c</sup>	24.3(22.1-26.6)	21.1(18.2-25.6)	21.8(19.0-24.7)	21.1(18.0-24.3)	19.0(15.4-22.6)	13.0(9.5-16.5)	10.9(7.5-14.2)
Weighted:	25.2(22.8-27.6)	22.4(19.2-25.8)	23.1(19.7-26.5)	27.2(21.9-32.6)	19.5(13.6-25.4)	15.3(9.8-20.9)	11.1(7.2-15.0)
Daily activities disturbance <sup>d</sup>	12.9(11.2-14.7)	14.2(11.7-16.8)	19.5(16.7-22.3)	19.9(16.8-22.9)	19.7(16.1-23.3)	13.9(10.3-17.5)	12.0(8.4-15.5)
Weighted:	13.4(11.5-15.3)	15.4(12.7-18.2)	20.1(16.9-23.3)	23.8(18.9-28.7)	18.6(13.0-24.2)	19.0(12.2-25.7)	14.4(9.5-19.3)

<sup>a</sup> Frequent wheeze (≥4 wheeze attacks in past 12 months)

<sup>b</sup> Wheeze always causing shortness of breath

<sup>c</sup> Sleep disturbed due to wheeze (>1/week)

<sup>d</sup> At least moderate disturbance of daily activities due to wheeze

All wheezing characteristics refer to the past 12 months.

% (CI), unweighted prevalence with confidence intervals; N<sub>cw</sub>, number of children with current wheeze at respective age

**Table E10—Comparison of parent-reported to self-reported symptoms:**

Sensitivity analysis in the 2010 survey (1,821 children aged 14-17 years) in entire cohort

<i>Symptom</i>	<i>Parent-reported (n=749)</i>	<i>Self-reported (n=1,072)</i>	
	% (CI)	% (CI)	p-value <sup>a</sup>
Wheeze	12.3 (9.8-15.4)	17.3 (14.9-20.0)	0.012
Episodic viral wheeze	5.2 (3.6-7.4)	6.2 (4.8-8.1)	0.415
Multiple trigger wheeze	6.1 (4.3-8.5)	10.6 (8.6-12.9)	0.005
<b>Wheeze, triggered by:</b>			
Exercise	8.0 (6.0-10.7)	14.4 (12.2-16.9)	<0.001
Aeroallergens	8.0 (6.0-10.7)	8.9 (7.2-11.0)	0.570
Food/drinks	0.9 (0.4-2.2)	1.5 (0.9-2.5)	0.375
Laughing/crying	2.2 (1.3-3.9)	7.6 (6.0-9.6)	<0.001
<b>Indicators of severe wheeze</b>			
Frequent wheeze <sup>b</sup>	4.0 (2.6-6.0)	4.8 (3.6-6.5)	0.437
Shortness of breath <sup>c</sup>	3.5 (2.2-5.5)	4.1 (2.9-5.6)	0.617
Sleep disturbance <sup>d</sup>	1.5 (0.8-3.0)	1.8 (1.1-3.0)	0.651
Daily activities disturbance <sup>e</sup>	1.9 (1.0-3.5)	2.0 (1.2-3.2)	0.924

<sup>a</sup> Difference between parent- and self-reported symptoms calculated with unpaired (two-sample) t-test<sup>b</sup> Frequent wheeze ( $\geq 4$  wheeze attacks in past 12 months)<sup>c</sup> Wheeze always causing shortness of breath<sup>d</sup> Sleep disturbed due to wheeze ( $>1$ /week)<sup>e</sup> At least moderate disturbance of daily activities due to wheeze

All wheezing characteristics refer to the past 12 months.