

## Health

### Respiratory Diseases

**Table H1: Percentage of children ages 0 to 17 years with asthma, 1997-2017**

| 1997-2003                  |      |      |      |      |      |      |      |
|----------------------------|------|------|------|------|------|------|------|
|                            | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
| Asthma attack prevalence   | 5.5  | 5.3  | 5.3  | 5.5  | 5.7  | 5.8  | 5.5  |
| Current asthma prevalence‡ |      |      |      |      | 8.7  | 8.3  | 8.5  |
| 2004-2010                  |      |      |      |      |      |      |      |
|                            | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
| Asthma attack prevalence   | 5.5  | 5.2  | 5.6  | 5.2  | 5.6  | 5.5  | 5.7  |
| Current asthma prevalence‡ | 8.5  | 8.9  | 9.3  | 9.1  | 9.4  | 9.6  | 9.4  |
| 2010-2017                  |      |      |      |      |      |      |      |
|                            | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| Asthma attack prevalence   | 5.5  | 5.4  | 4.9  | 4.3  | 4.2  | 4.7  | 4.6  |
| Current asthma prevalence‡ | 9.5  | 9.3  | 8.3  | 8.6  | 8.4  | 8.3  | 8.4  |

DATA: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey

NOTE: Data represent responses to the following survey questions: “Has a doctor or other health professional ever told you that <child’s name> had asthma?” and if yes, “During the past 12 months, has <child’s name> had an episode of asthma or an asthma attack?” For 2001-2017 the survey included the question: “Does <child’s name> still have asthma?” Responses are provided by a parent or other knowledgeable household adult.

‡ This survey question was first asked in 2001.

**Table H1a: Percentage of children ages 0 to 17 years with current asthma, 2001-2017, by sex**

|              | 2001 | 2002 | 2003 | 2004 | 2005 |
|--------------|------|------|------|------|------|
| All children | 8.7  | 8.3  | 8.5  | 8.5  | 8.9  |
| Boys         | 9.9  | 9.5  | 9.5  | 10.2 | 10.0 |
| Girls        | 7.5  | 7.2  | 7.5  | 6.7  | 7.8  |
|              | 2006 | 2007 | 2008 | 2009 | 2010 |
| All children | 9.3  | 9.1  | 9.4  | 9.6  | 9.4  |
| Boys         | 11.0 | 9.7  | 11.4 | 11.3 | 10.5 |
| Girls        | 7.5  | 8.5  | 7.4  | 7.9  | 8.2  |
|              | 2011 | 2012 | 2013 | 2014 | 2015 |
| All children | 9.5  | 9.3  | 8.3  | 8.6  | 8.4  |
| Boys         | 10.2 | 10.0 | 9.3  | 10.1 | 9.9  |
| Girls        | 8.8  | 8.6  | 7.3  | 7.0  | 6.9  |
|              | 2016 | 2017 |      |      |      |
| All children | 8.3  | 8.4  |      |      |      |
| Boys         | 9.2  | 9.5  |      |      |      |
| Girls        | 7.4  | 7.3  |      |      |      |

DATA: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey

NOTE: Data represent responses to the following survey questions: “Has a doctor or other health professional ever told you that <child’s name> had asthma?” and if yes, “During the past 12 months, has <child’s name> had an episode of asthma or an asthma attack?” For 2001-2017 the survey included the question: “Does <child’s name> still have asthma?” Responses are provided by a parent or other knowledgeable household adult.

**Table H1b: Percentage of children ages 0 to 17 years with asthma, 1980-1996†**

| 1980-1987                           |      |      |      |      |      |      |      |      |      |
|-------------------------------------|------|------|------|------|------|------|------|------|------|
|                                     | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 |      |
| <b>Asthma in the past 12 months</b> | 3.6  | 3.7  | 4.1  | 4.5  | 4.3  | 4.8  | 5.1  | 5.3  |      |
| 1988-1996                           |      |      |      |      |      |      |      |      |      |
|                                     | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 |
| <b>Asthma in the past 12 months</b> | 5.0  | 6.1  | 5.8  | 6.4  | 6.3  | 7.2  | 6.9  | 7.5  | 6.2  |

DATA: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey

† The survey questions for asthma changed in 1997; data before 1997 cannot be directly compared to data in 1997 and later, and are thus shown in this separate table. For 1980 to 1996, the asthma survey question was “Did <child’s name> have asthma in the past 12 months?”

**Table H1c: Percentage of children ages 0 to 17 years with current asthma who reported an asthma attack in the past 12 months, 2001-2017**

| 2001-2008   |      |      |      |      |      |      |      |      |
|---|------|------|------|------|------|------|------|------|
|   | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
| <b>Asthma attack prevalence among those with current asthma</b> | 61.7 | 64.9 | 62.7 | 61.2 | 56.7 | 56.1 | 54.8 | 57.2 |
| 2009-2016   |      |      |      |      |      |      |      |      |
|   | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
| <b>Asthma attack prevalence among those with current asthma</b> | 53.9 | 58.3 | 55.5 | 55.2 | 57.9 | 48.0 | 47.5 | 53.7 |
| 2017  |      |      |      |      |      |      |      |      |
|   | 2017 |      |      |      |      |      |      |      |
| <b>Asthma attack prevalence among those with current asthma</b> | 51.6 |      |      |      |      |      |      |      |

DATA: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey

NOTE: Data represent responses to the following survey questions: “Has a doctor or other health professional ever told you that <child’s name> had asthma?” and if yes, “During the past 12 months, has <child’s name> had an episode of asthma or an asthma attack?” For 2001-2017 the survey included the question: “Does <child’s name> still have asthma?” Responses are provided by a parent or other knowledgeable household adult.

**Table H2: Percentage of children ages 0 to 17 years reported to have current asthma by race/ethnicity and family income, 2014-2017**

| Race / Ethnicity  | All<br>(n = 45,538) | < Poverty<br>Level<br>(n = 8,476) | ≥ Poverty<br>Level<br>(n = 37,062) | ≥ Poverty Level (Detail)                     |  |
|---|---------------------|-----------------------------------|------------------------------------|--|--|
|   |                     |                                   |                                    | 100-200% of<br>Poverty Level<br>(n = 10,453) | ≥ 200% of<br>Poverty Level<br>(n = 26,609) |
| <b>All</b><br>(n = 45,538)  | 8.5                 | 10.6                              | 7.9                                | 9.1  | 7.4  |
| <b>White non-Hispanic</b><br>(n = 22,866)                         | 7.4                 | 10.1                              | 7.1                                | 8.7  | 6.7  |
| <b>Black or African-American non-Hispanic</b><br>(n = 5,733)      | 13.8                | 13.8                              | 13.8                               | 14.2   | 13.5                                       |
| <b>Asian non-Hispanic</b><br>(n = 2,555)                          | 4.7                 | 6.2                               | 4.5                                | 4.1  | 4.6  |
| <b>Hispanic</b><br>(n = 11,711)                                   | 7.7                 | 8.7                               | 7.2                                | 7.1  | 7.3  |
| <b>Mexican</b><br>(n = 7,657)                                     | 6.8                 | 7.3                               | 6.5                                | 6.3  | 6.7  |
| <b>Puerto Rican</b><br>(n = 1,016)                                | 15.2                | 19.0                              | 13.2                               | 13.6   | 13.0                                       |
| <b>All Other Races†</b><br>(n = 2,673)                            | 11.7                | 15.1                              | 10.7                               | 12.3   | 10.0                                       |
| <b>American Indian or Alaska Native non-Hispanic</b><br>(n = 433) | 12.4                | 12.1*                             | 12.6                               | 12.8*  | 12.4                                       |

DATA: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey

† The “All Other Races” category includes all other races not specified, together with those individuals who report more than one race.

\* The estimate should be interpreted with caution because the standard error of the estimate is relatively large: the relative standard error, RSE, is at least 30% but is less than 40% (RSE = standard error divided by the estimate).

**Table H2a: Percentage of children ages 0 to 17 years reported to have current asthma by age and sex, 2014-2017**

|                     | Ages 0 to<br>17 years | Ages 0 to<br>5 years | Ages 6 to<br>10 years | Ages 11 to<br>17 years |
|---------------------|-----------------------|----------------------|-----------------------|------------------------|
| <b>All children</b> | 8.5                   | 4.9                  | 9.8                   | 10.4                   |
| <b>Boys</b>         | 9.7                   | 6.2                  | 11.3                  | 11.4                   |
| <b>Girls</b>        | 7.2                   | 3.6                  | 8.3                   | 9.3                    |

DATA: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey

**Table H3: Children’s emergency room visits and hospitalizations for asthma and other respiratory causes, ages 0 to 17 years, 1996-2016**

| 1996-1999                                | Rate per 10,000 children |       |       |       |
|--|--------------------------|-------|-------|-------|
|  | 1996                     | 1997  | 1998  | 1999  |
| <b>Emergency Room Visits</b>             |                          |       |       |       |
| Asthma and all other respiratory causes  | 636.4                    | 631.5 | 654.7 | 619.9 |
| All respiratory causes other than asthma | 521.9                    | 519.4 | 530.3 | 515.4 |
| Acute respiratory infections             | 408.4                    | 409.3 | 426.0 | 403.0 |
| Pneumonia or influenza                   | 56.3                     | 52.0  | 58.0  | 58.8  |
| Other lower respiratory                  | 57.2                     | 58.0  | 46.3  | 53.6  |
| Asthma                                   | 114.4                    | 112.1 | 124.4 | 104.5 |
| <b>Hospitalizations</b>                  |                          |       |       |       |
| Asthma and all other respiratory causes  | 90.3                     | 102.2 | 86.3  | 101.4 |
| All respiratory causes other than asthma | 59.9                     | 69.1  | 61.4  | 72.5  |
| Acute respiratory infections             | 28.9                     | 37.2  | 27.6  | 39.5  |
| Pneumonia or influenza                   | 29.6                     | 30.6  | 33.1  | 32.0  |
| Other lower respiratory                  | 1.4                      | 1.3   | 0.7   | 1.0   |
| Asthma                                   | 30.4                     | 33.1  | 25.0  | 28.9  |

| 2000-2003                                | Rate per 10,000 children |       |       |       |
|--|--------------------------|-------|-------|-------|
|  | 2000                     | 2001  | 2002  | 2003  |
| <b>Emergency Room Visits</b>             |                          |       |       |       |
| Asthma and all other respiratory causes  | 622.7                    | 624.0 | 721.1 | 740.2 |
| All respiratory causes other than asthma | 521.8                    | 532.3 | 621.3 | 644.8 |
| Acute respiratory infections             | 428.1                    | 426.8 | 494.4 | 499.1 |
| Pneumonia or influenza                   | 54.1                     | 63.3  | 79.8  | 94.3  |
| Other lower respiratory                  | 39.7                     | 42.2  | 47.1  | 51.5  |
| Asthma                                   | 100.9                    | 91.7  | 99.9  | 95.4  |
| <b>Hospitalizations</b>                  |                          |       |       |       |
| Asthma and all other respiratory causes  | 92.0                     | 92.7  | 94.8  | 98.2  |
| All respiratory causes other than asthma | 62.4                     | 66.5  | 67.9  | 67.0  |
| Acute respiratory infections             | 35.4                     | 36.7  | 36.7  | 32.7  |
| Pneumonia or influenza                   | 26.0                     | 29.0  | 30.4  | 33.1  |
| Other lower respiratory                  | 1.0                      | NA**  | 0.7   | 1.3   |
| Asthma                                   | 29.6                     | 26.2  | 26.9  | 31.2  |

| 2004-2007                                | Rate per 10,000 children |       |       |       |
|--|--------------------------|-------|-------|-------|
|  | 2004                     | 2005  | 2006  | 2007  |
| <b>Emergency Room Visits</b>             |                          |       |       |       |
| Asthma and all other respiratory causes  | 528.8                    | 639.8 | 584.3 | 625.1 |
| All respiratory causes other than asthma | 426.0                    | 537.8 | 504.1 | 538.5 |
| Acute respiratory infections             | 331.6                    | 441.3 | 396.9 | 416.2 |
| Pneumonia or influenza                   | 56.9                     | 62.6  | 61.1  | 87.6  |
| Other lower respiratory                  | 37.4                     | 33.9  | 46.1  | 34.6  |
| Asthma                                   | 102.8                    | 102.1 | 80.2  | 86.6  |
| <b>Hospitalizations</b>                  |                          |       |       |       |
| Asthma and all other respiratory causes  | 88.4                     | 80.3  | 73.2  | 68.1  |
| All respiratory causes other than asthma | 61.4                     | 57.9  | 52.3  | 46.9  |
| Acute respiratory infections             | 33.5                     | 28.4  | 25.9  | 25.6  |
| Pneumonia or influenza                   | 26.6                     | 29.1  | 25.4  | 21.0  |
| Other lower respiratory                  | 1.2                      | 0.4*  | 1.0   | NA**  |
| Asthma                                   | 27.0                     | 22.4  | 20.9  | 21.2  |

| 2008-2011                                | Rate per 10,000 children |       |       |       |
|--|--------------------------|-------|-------|-------|
|  | 2008                     | 2009  | 2010  | 2011  |
| <b>Emergency Room Visits</b>             |                          |       |       |       |
| Asthma and all other respiratory causes  | 619.1                    | 839.0 | 631.1 | 619.3 |
| All respiratory causes other than asthma | 516.6                    | 728.2 | 532.5 | 525.7 |
| Acute respiratory infections             | 388.2                    | 547.2 | 429.6 | 419.1 |
| Pneumonia or influenza                   | 91.3                     | 138.2 | 67.2  | 66.8  |
| Other lower respiratory                  | 37.1                     | 42.8  | 35.7  | 39.8  |
| Asthma                                   | 102.6                    | 110.9 | 98.7  | 93.6  |
| <b>Hospitalizations</b>                  |                          |       |       |       |
| Asthma and all other respiratory causes  | 62.3                     | 66.5  | 64.4  | -     |
| All respiratory causes other than asthma | 44.3                     | 47.4  | 45.9  | -     |
| Acute respiratory infections             | 21.2                     | 20.8  | 23.0  | -     |
| Pneumonia or influenza                   | 22.6                     | 26.3  | 22.5  | -     |
| Other lower respiratory                  | NA**                     | NA**  | NA**  | -     |
| Asthma                                   | 18.0                     | 19.2  | 18.5  | -     |

| 2012-2015                                | Rate per 10,000 children |       |       |       |
|--|--------------------------|-------|-------|-------|
|  | 2012                     | 2013  | 2014  | 2015  |
| <b>Emergency Room Visits</b>             |                          |       |       |       |
| Asthma and all other respiratory causes  | 571.4                    | 699.1 | 741.4 | 712.1 |
| All respiratory causes other than asthma | 459.3                    | 613.2 | 613.9 | 589.0 |
| Acute respiratory infections             | 373.3                    | 474.6 | 500.1 | 477.3 |
| Pneumonia or influenza                   | 56.7                     | 110.8 | 88.9  | 87.5  |
| Other lower respiratory                  | 29.2                     | 27.8  | 24.9  | NA**  |
| Asthma                                   | 112.2                    | 85.9  | 127.5 | 123.1 |

| 2016                                     | Rate per 10,000 children |  |  |  |
|--|--------------------------|--|--|--|
|  | 2016                     |  |  |  |
| <b>Emergency Room Visits</b>             |                          |  |  |  |
| Asthma and all other respiratory causes  | 759.9                    |  |  |  |
| All respiratory causes other than asthma | 685.6                    |  |  |  |

|                                     |       |
|-------------------------------------|-------|
| <b>Acute respiratory infections</b> | 588.2 |
| <b>Pneumonia or influenza</b>       | 88.2  |
| <b>Other lower respiratory</b>      | NA**  |
| <b>Asthma</b>                       | 74.3  |

DATA: Centers for Disease Control and Prevention, National Center for Health Statistics, National Hospital Ambulatory Medical Care Survey and National Hospital Discharge Survey

\* The estimate should be interpreted with caution because the standard error of the estimate is relatively large: the relative standard error, RSE, is at least 30% but is less than 40% (RSE = standard error divided by the estimate).

\*\* Not available. The estimate is not reported because it has large uncertainty: the relative standard error, RSE, exceeds 40% (RSE = standard error divided by the estimate) or there are fewer than 30 sampled hospitalizations.

**Table H3a: Children’s emergency room visits for asthma and other respiratory causes, by race/ethnicity, ages 0 to 17 years, 2013-2016**

|  | Rate per 10,000 children |         |         |         |           |
|--|--------------------------|---------|---------|---------|-----------|
|  | 2013                     | 2014    | 2015    | 2016    | 2013-2016 |
| <b>All</b><br>( <i>n</i> =19,883)                                  | 699.1                    | 741.4   | 712.1   | 759.9   | 728.1     |
| <b>White non-Hispanic</b><br>( <i>n</i> =9,401)                    | 598.7                    | 566.8   | 544.3   | 614.5   | 581.0     |
| <b>Black non-Hispanic</b><br>( <i>n</i> =4,868)                    | 1,167.6                  | 1,729.6 | 1,380.8 | 1,829.7 | 1,526.6   |
| <b>American Indian/Alaska Native non-Hispanic</b> ( <i>n</i> =141) | NA**                     | NA**    | NA**    | NA**    | NA**      |
| <b>Asian and Pacific Islander non-Hispanic</b><br>( <i>n</i> =496) | NA**                     | NA**    | NA**    | NA**    | 363.7     |
| <b>Hispanic</b><br>( <i>n</i> =4,776)                              | 821.7                    | 733.0   | 843.8   | 694.8   | 773.0     |

DATA: Centers for Disease Control and Prevention, National Center for Health Statistics, National Hospital Ambulatory Medical Care Survey

\*\* Not available. The estimate is not reported because it has large uncertainty: the relative standard error, RSE, exceeds 40% (RSE = standard error divided by the estimate) or there are fewer than 30 sampled emergency room visits.

**Table H3b: Children’s emergency room visits for asthma and other respiratory causes, by age, 2013-2016**

|                            | Rate per 10,000 children |         |         |         |           |
|----------------------------|--------------------------|---------|---------|---------|-----------|
|                            | 2013                     | 2014    | 2015    | 2016    | 2013-2016 |
| <b>Ages 0 to 17 years</b>  | 699.1                    | 741.4   | 712.1   | 759.9   | 728.1     |
| <b>Ages 0 to 1 year</b>    | 2626.7                   | 2,348.0 | 2,550.9 | 2,551.7 | 2,519.3   |
| <b>Age 1 year</b>          | 1959.6                   | 1952.9  | 1,803.5 | 2,192.0 | 1,977.4   |
| <b>Age 2 years</b>         | 1027.2                   | 1366.0  | 1,267.7 | 1,299.7 | 1,239.9   |
| <b>Ages 3 to 5 years</b>   | 1066.5                   | 980.0   | 954.6   | 946.2   | 987.0     |
| <b>Ages 6 to 10 years</b>  | 392.5                    | 563.5   | 485.0   | 624.1   | 516.3     |
| <b>Ages 11 to 15 years</b> | 294.1                    | 271.4   | 304.2   | 250.7   | 280.1     |
| <b>Ages 16 to 17 years</b> | 259.4                    | 367.4   | 272.6   | 291.5   | 297.7     |

DATA: Centers for Disease Control and Prevention, National Center for Health Statistics, National Hospital Ambulatory Medical Care Survey

**Table H3c: Children’s hospitalizations for asthma and other respiratory causes, by race,† ages 0 to 17 years, 2007-2010**

|   | Rate per 10,000 children |      |       |       |           |
|---|--------------------------|------|-------|-------|-----------|
|   | 2007                     | 2008 | 2009  | 2010  | 2007-2010 |
| <b>All (n=10,435)</b>                       | 68.1                     | 62.3 | 66.5  | 64.4  | 65.3      |
| <b>White (n=5,025)</b>                      | 47.7                     | 42.7 | 39.8  | 40.7  | 42.7      |
| <b>Black (n=2,253)</b>                      | 78.0                     | 72.3 | 86.9  | 73.3  | 77.6      |
| <b>American Indian/Alaska Native (n=42)</b> | NA**                     | NA** | NA**  | NA**  | 28.4      |
| <b>Asian and Pacific Islander (n=141)</b>   | 24.2                     | NA** | 36.4* | 51.2* | 36.0      |

DATA: Centers for Disease Control and Prevention, National Center for Health Statistics, National Hospital Discharge Survey

† Estimates for ethnicity not available. Race categories include children of Hispanic ethnicity.

\* The estimate should be interpreted with caution because the standard error of the estimate is relatively large: the relative standard error, RSE, is at least 30% but is less than 40% (RSE = standard error divided by the estimate).

\*\* Not available. The estimate is not reported because it has large uncertainty: the relative standard error, RSE, exceeds 40% (RSE = standard error divided by the estimate) or there are fewer than 30 sampled emergency room visits.

**Table H3d: Children’s hospitalizations for asthma and other respiratory causes, by age, 2007-2010**

|                            | Rate per 10,000 children |       |       |       |           |
|----------------------------|--------------------------|-------|-------|-------|-----------|
|                            | 2007                     | 2008  | 2009  | 2010  | 2007-2010 |
| <b>Ages 0 to 17 years</b>  | 68.1                     | 62.3  | 66.5  | 64.4  | 65.3      |
| <b>Ages 0 to 1 year</b>    | 412.8                    | 390.1 | 391.3 | 392.9 | 396.9     |
| <b>Age 1 year</b>          | 196.0                    | 172.3 | 204.9 | 176.5 | 187.6     |
| <b>Age 2 years</b>         | 132.9                    | 101.4 | 91.4  | 112.1 | 109.2     |
| <b>Ages 3 to 5 years</b>   | 60.4                     | 59.9  | 75.1  | 81.0  | 69.1      |
| <b>Ages 6 to 10 years</b>  | 32.1                     | 30.7  | 28.4  | 32.1  | 30.8      |
| <b>Ages 11 to 15 years</b> | 18.8                     | 14.4  | 15.7  | 13.5  | 15.6      |
| <b>Ages 16 to 17 years</b> | 15.1                     | 15.4  | 19.8* | 14.4* | 16.2      |

DATA: Centers for Disease Control and Prevention, National Center for Health Statistics, National Hospital Discharge Survey

\* The estimate should be interpreted with caution because the standard error of the estimate is relatively large: the relative standard error, RSE, is at least 30% but is less than 40% (RSE = standard error divided by the estimate).