Problems Paying Medical Bills Among Persons Under Age 65: Early Release of Estimates From the National Health Interview Survey, 2011–June 2017

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Highlights

- The percentage of persons under age 65 who were in families having problems paying medical bills decreased, from 21.3% (56.5 million) in 2011 to 16.0% (43.3 million) in the first 6 months of 2017.
- The percentage of children aged 0–17 years who were in families having problems paying medical bills decreased, from 23.2% in 2011 to 17.1% in the first 6 months of 2017.
- In the first 6 months of 2017 among persons under age 65, males (15.1%) were less likely than females (16.9%) to be in families having problems paying medical bills.
- In the first 6 months of 2017, among persons under age 65, 29.4% of those who were uninsured, 20.5% of those who had public coverage, and 12.3% of those who had private coverage were in families having problems paying medical bills.
- In the first 6 months of 2017, among persons under age 65, 24.4% of poor, 24.8% of near-poor, and 12.2% of not-poor persons under age 65 were in families having problems paying medical bills in the past 12 months.

Introduction

This report provides updated estimates (1) from the National Health Interview Survey (NHIS) for the percentage of persons under age 65 who were in families having problems paying medical bills, by selected demographic variables and insurance status. Estimates for 2011–2016 are based on full years of data, and the 2017 estimates are based on data collected during the first 6 months of 2017. During this time period, there have been changes in the prevalence of uninsured persons. In the first 6 months of 2017, 28.3 million (10.5%) persons under age 65 were uninsured at the time of interview—17.6 million fewer persons than in 2011 (17.3%) but only 0.1 million more persons than in 2016 (a statistically insignificant difference) (2).

In this report on families having problems paying medical bills, an NHIS “family” is defined as an individual or a group of two or more related persons living together in the same housing unit. Thus, a family can consist of only one person. In some instances, unrelated persons sharing the same household, such as an unmarried couple living together, may also be considered a family.

This report is produced by the NHIS Early Release (ER) Program, which releases selected preliminary estimates prior to final microdata release. These estimates are available from the NHIS website at https://www.cdc.gov/nchs/nhis.htm. For more information about NHIS and the ER Program, see the Technical Notes and Additional Early Release Program Products sections of this report.

Figure 1. Percentage and number of persons under age 65 who were in families having problems paying medical bills in the past 12 months, by year: United States, 2011–June 2017

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1 Significant linear decrease from 2011 through June 2017 (p < 0.05).

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

Among persons under age 65, 16.0% (43.3 million) were in families having problems paying medical bills in the first 6 months of 2017 (Figure 1).

The percentage of persons under age 65 who were in families having problems paying medical bills decreased, from 21.3% (56.5 million) in 2011 to 16.0% (43.3 million) in the first 6 months of 2017.

The percentage of persons under age 65 who were in families having problems paying medical bills did not change significantly between 2016 (16.2% or 43.9 million) and the first 6 months of 2017 (16.0% or 43.3 million).

Among children aged 0–17 years, the percentage of those who were in families having problems paying medical bills decreased, from 23.2% in 2011 to 17.1% in the first 6 months of 2017 (Figure 2). However, the observed decrease in the percentage of children who were in families having problems paying medical bills between 2016 (17.7%) and the first 6 months of 2017 (17.1%) was not significant.

Among adults aged 18–64, the percentage of those who were in families having problems paying medical bills decreased, from 20.6% in 2011 to 15.6% in the first 6 months of 2017. There was no change in the percentage of adults aged 18–64 who were in families having problems paying medical bills between 2016 (15.6%) and the first 6 months of 2017 (15.6%).

Within each year from 2011 through 2016, children were more likely than adults aged 18–64 to be in families having problems paying medical bills. In the first 6 months of 2017, the observed difference between children (17.1%) and adults aged 18–64 (15.6%) was not significant.
Among persons under age 65, the percentage of males who were in families having problems paying medical bills decreased, from 20.5% in 2011 to 15.1% in the first 6 months of 2017 (Figure 3). However, the observed decrease in the percentage of males having problems paying medical bills between 2016 (15.8%) and the first 6 months of 2017 (15.1%) was not significant.

Among persons under age 65, the percentage of females who were in families having problems paying medical bills decreased, from 22.1% in 2011 to 16.9% in the first 6 months of 2017. However, the observed increase in the percentage of females who were in families having problems paying medical bill between 2016 (16.6%) and the first 6 months of 2017 (16.9%) was not significant.

Within each year from 2011 through 2015 and from January through June 2017, females were more likely than males to have been in a family having problems paying medical bills. In 2016, the observed difference between females (16.6%) and males (15.8%) was not significant.

NOTES

1Significant linear decrease from 2011 through June 2017 (p < 0.05).

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

In the first 6 months of 2017, among persons under age 65, 29.4% of those who were uninsured, 20.5% of those with public coverage, and 12.3% of those who had private coverage were in families having problems paying medical bills in the past 12 months (Figure 4).

Among persons under age 65 who were uninsured, the percentage of persons who were in families having problems paying medical bills decreased, from 35.7% in 2011 to 29.4% in the first 6 months of 2017.

The percentage of persons under age 65 with public coverage who were in families having problems paying medical bills decreased, from 27.8% in 2011 to 20.5% in the first 6 months of 2017.

The percentage of persons under age 65 with private coverage who were in families having problems paying medical bills decreased, from 14.9% in 2011 to 12.3% in the first 6 months of 2017.

Among persons under age 65 who were uninsured, had public coverage, or had private coverage, there was no significant change in the percentage of those who were in families having problems paying medical bills between 2016 and the first 6 months of 2017.

Within each year, persons under age 65 who were uninsured were more likely than those who had public or private coverage to be in families having problems paying medical bills.

Within each year, persons under age 65 who had public coverage were more likely than those who had private coverage to be in families having problems paying medical bills.
In the first 6 months of 2017, among persons under age 65, 24.4% of those who were poor, 24.8% of those who were near poor, and 12.0% of those who were not poor were in families having problems paying medical bills in the past 12 months (Figure 5).

The percentage of poor persons under age 65 who were in families having problems paying medical bills generally decreased nearly 5 percentage points, from 2011 (32.1%) to 2014 (27.3%). The percentage then decreased another 4 percentage points between 2014 and 2015 to 23.2%. However, the percentage has remained relatively constant between 2015 (23.2%) and the first 6 months of 2017 (24.4%).

The percentage of near-poor persons under age 65 who were in families having problems paying medical bills decreased, from 34.6% in 2011 to 24.8% in the first 6 months of 2017.

The percentage of not-poor persons under age 65 who were in families having problems paying medical bills decreased, from 15.2% in 2011 to 12.0% in the first 6 months of 2017.

Among persons under age 65 who were poor, near poor, or not poor, there was no significant change in the percentage of those who were in families having problems paying medical bills between 2016 and the first 6 months of 2017.

Within each year, persons under age 65 who were poor or near poor were about twice as likely as those who were not poor to be in families having problems paying medical bills.

Within each year from 2011 through 2013 and 2015 through 2016, persons under age 65 who were near poor were more likely than those who were poor to be in families having problems paying medical bills.
In the first 6 months of 2017, among persons under age 65, 21.7% of non-Hispanic black, 18.1% of Hispanic, 14.6% of non-Hispanic white, and 6.9% of non-Hispanic Asian persons were in families having problems paying medical bills in the past 12 months (Figure 6).

The percentage of non-Hispanic black persons under age 65 who were in families having problems paying medical bills decreased, from 27.3% in 2011 to 21.7% in the first 6 months of 2017.

The percentage of Hispanic persons under age 65 who were in families having problems paying medical bills decreased, from 24.3% in 2011 to 18.1% in the first 6 months of 2017.

The percentage of non-Hispanic white persons under age 65 who were in families having problems paying medical bills decreased, from 19.8% in 2011 to 14.6% in the first 6 months of 2017.

The percentage of non-Hispanic Asian persons under age 65 who were in families having problems paying medical bills decreased, from 11.0% in 2011 to 6.9% in the first 6 months of 2017.

Among all race and ethnicity groups shown, there was no significant change in the percentage of persons under age 65 who were in families having problems paying medical bills between 2016 and the first 6 months of 2017.

Within each year, among persons under age 65, non-Hispanic black persons were more likely than all other groups, and non-Hispanic Asian persons were less likely than all other groups, to be in families having problems paying medical bills.

Within each year, among persons under age 65, Hispanic persons were more likely than non-Hispanic white persons to be in families having problems paying medical bills.
This table shows the percentage of individuals under age 65 who were in families having problems paying medical bills in the past 12 months, by selected demographic characteristics and year for the United States, 2011–June 2017. The data is presented in a tabular format with columns for different years and subcategories of demographic characteristics such as age group, sex, race and ethnicity, health insurance coverage status, poverty status, and out-of-pocket expenses. The table includes specific statistics for each category, such as the percentage of uninsured, private insured, and public insured individuals, as well as those with different poverty statuses and out-of-pocket expenses. Note: Data is presented with a focus on inclusivity, including individuals without private health insurance, Medicare, Medicaid, Children’s Health Insurance Program (CHIP), state-sponsored or other government-sponsored health plans, or military health plans. Furthermore, the data highlights any comprehensive private insurance plan, including health maintenance organizations and preferred provider organizations. The table also emphasizes that insurance coverage excludes plans that pay for only one type of service, such as accidents or dental care. A small number of persons were covered by both public and private plans and were included in both categories.
1Includes Medicaid, CHIP, state-sponsored or other government-sponsored health plan, Medicare (disability), and military plans. A small number of persons were covered by both public and private plans and were included in both categories.

2Based on family income and family size, using the U.S. Census Bureau’s poverty thresholds. “Poor” persons are defined as those below the poverty threshold, “near poor” persons have incomes of 100% to less than 200% of the poverty threshold, and “not poor” persons have incomes of 200% of the poverty threshold or greater. The percentages of respondents with unknown poverty status were 11.5% in 2011, 11.4% in 2012, 10.2% in 2013, 8.8% in 2014, 8.8% in 2015, 7.8% in 2016, and 6.9% in the first two quarters of 2017. Estimates for persons with unknown poverty status are not shown separately. For more information on the unknown income and poverty status categories, see the Survey Description document for the 2016 National Health Interview Survey, available from: https://www.cdc.gov/nchs/nhis.htm. The estimates shown in this report may differ from estimates based on both reported and imputed income.

3Based on the following survey question: “The next question is about money that [you have/your family has] spent out of pocket on medical care. We do not want you to count health insurance premiums, over-the-counter drugs, or costs that you will be reimbursed for. In the past 12 months, about how much did [you/your family] spend for medical care and dental care?”

NOTES: Having problems paying medical bills in the past 12 months is based on the following survey question: “In the past 12 months did [you/anyone in the family] have problems paying or were unable to pay any medical bills? Include bills for doctors, dentists, hospitals, therapists, medication, equipment, nursing home, or home care.” Health insurance pertains to the sample person, whereas “problems paying medical bills” refers to the family as reported by the family respondent. Data are based on household interviews of a sample of the civilian noninstitutionalized population.

The National Center for Health Statistics (NCHS) is releasing selected estimates of problems paying medical bills for the past 12 months for the civilian noninstitutionalized U.S. population based on data from the January 2011–June 2017 National Health Interview Survey (NHIS).

The estimates are being released prior to final data editing and final weighting to provide access to the most recent information from NHIS. Differences between estimates calculated using preliminary data files and final data files are typically less than 0.1 percentage point. Estimates for 2011 through June 2017 are stratified by year, sex, age group, race and ethnicity, poverty status, health insurance coverage status, and out-of-pocket medical expenses. All estimates in this report are based on preliminary data files.

**Data source**

Data used to produce this Early Release (ER) report are derived from the NHIS Family Core and Supplemental components from January 2011 through June 2017. These components collect information on all family members in each household. Data analysis was based on information collected on 667,739 persons in the Family Core and Supplemental components. A new sample design was implemented with the 2016 NHIS. Sample areas were reselected to take into account changes in the distribution of the U.S. population since 2006, when the previous sample design was first implemented. Commercial address lists were used as the main source of addresses, rather than field listing; and the oversampling procedures for black, Hispanic, and Asian persons that were a feature of the previous sample design were not implemented in 2016. Some of the differences between estimates for 2016 and 2017 and estimates for earlier years may be attributable to the new sample design. Visit the NCHS website at https://www.cdc.gov/nchs/nhis.htm for more information on the design, content, and use of NHIS.

**Estimation procedures**

NCHS creates survey weights for each calendar quarter of the NHIS sample. The NHIS data weighting procedure is described in more detail at https://www.cdc.gov/nchs/data/sr_02/sr02_165.pdf. Estimates were calculated using the NHIS survey weights, which are calibrated to census totals for sex, age, and race and ethnicity of the U.S. civilian noninstitutionalized population. Weights for the 2011 NHIS data were derived from 2000 census-based population estimates. Weights for the 2012, 2013, 2014, 2015, 2016, and 2017 NHIS data were derived from 2010 census-based population estimates.

Point estimates and estimates of their variances were calculated using SUDAAN software to account for the complex sample design of NHIS. The Taylor series linearization method was chosen for variance estimation. Trends were evaluated using logistic regression analysis.

Beginning with the 2017 NHIS, all estimates shown meet the NCHS standards of reliability as specified in National Center for Health Statistics Data Presentation Standards for Proportions (3), unless otherwise noted. Estimates based on the 2016 and earlier NHIS meet the former NCHS standard of having less than or equal to 30% relative standard error. Differences between percentages or rates were evaluated using two-sided significance tests at the 0.05 level. Terms such as "more likely" and "less likely" indicate a statistically significant difference. Lack of comment regarding the difference between any two estimates does not necessarily mean that the difference was tested and found to be not significant.

**Definitions of selected terms**

**Health insurance coverage at interview**—The "private health insurance coverage" category includes persons who had any comprehensive private insurance plan (including health maintenance and preferred provider organizations). These plans include those obtained through an employer, purchased directly, purchased through local or community programs, or purchased through the Health Insurance Marketplace or a state-based exchange. Private coverage excludes plans that pay for only one type of service, such as accidents or dental care. The "public health plan coverage" category includes Medicaid, Children's Health Insurance Program (CHIP), state-sponsored or other government-sponsored health plans, Medicare, and military plans. A small number of persons were covered by both public and private plans and were included in both categories. A person was defined as uninsured if he or she did not have, at the time of the interview, any private health insurance, Medicare, Medicaid, CHIP, state-sponsored or other government-sponsored health plan, or military plan. A person was also defined as uninsured if he or she had only Indian Health Service coverage or only a private plan that paid for one type of service, such as accidents or dental care. Data on health insurance status were edited using an automated system based on logic checks and keyword searches. For comparability, the estimates for all years were created using these same procedures. Health insurance information is collected for all persons in a family and is reported on an individual basis.

**Family**—An individual or a group of two or more related persons who are living together in the same occupied housing unit (i.e., household) in the sample. In some instances, unrelated persons sharing the same household, such as an unmarried couple living together, may also be considered one family.

**Poverty status**—Based on the ratio of the family's income in the previous calendar year to the appropriate poverty threshold (given the family's size and number of children) defined by the U.S. Census Bureau for that year (4–10). Persons categorized as "poor" have a poverty ratio less than 100% (i.e., their family income was below the poverty threshold); "near poor" persons have incomes of
Problems paying medical bills in the past 12 months—Based on the following question: “In the past 12 months, did [you/anyone in the family] have problems paying or were unable to pay any medical bills? Include bills for doctors, dentists, hospitals, therapists, medication, equipment, nursing home, or home care.” This question was answered by the family respondent on behalf of everyone in the family.

Additional Early Release Program Products

Additional reports are published through the Early Release (ER) Program. Early Release of Selected Estimates Based on Data From the National Health Interview Survey is published quarterly and provides estimates of 15 selected measures of health. Measures of health include estimates of health insurance, having a usual place to go for medical care, obtaining needed medical care, influenza vaccination, pneumococcal vaccination, obesity, leisure-time physical activity, current smoking, alcohol consumption, HIV testing, general health status, personal care needs, serious psychological distress, diagnosed diabetes, and asthma episodes and current asthma.

Health Insurance Coverage: Early Release of Estimates From the National Health Interview Survey is published quarterly and provides detailed estimates of health insurance coverage.

Wireless Substitution: Early Release of Estimates From the National Health Interview Survey is published biannually and provides selected estimates of telephone coverage in the United States.

In addition to these reports, preliminary microdata files containing selected National Health Interview Survey (NHIS) variables are produced as part of the ER Program. For the 2017 NHIS, these files are made available in and about August 2017, November 2017, February 2018, and May 2018. NHIS data users can analyze these files through the National Center for Health Statistics Research Data Center without having to wait for the final annual NHIS microdata files to be released.

New measures may be added as work continues and in response to changing data needs. Feedback on these releases is welcome (nhislist@cdc.gov).

Announcements about Early Releases, other new data releases, publications, or corrections related to NHIS will be sent to members of the HISUSERS e-mail list. To join, visit the Centers for Disease Control and Prevention website at https://www.cdc.gov/subscribe.html.

References


Suggested citation