LIVES ON THE LINE

The Deadly Consequences of Delaying Health Reform

Families USA

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INTRODUCTION

After a year of deliberation and debate, Congress is on the verge of passing historic health reform legislation. Despite broad consensus across the political spectrum that our health system urgently needs to be reformed, the fate of this legislation remains unclear. If this Congress fails to pass health reform, the consequences will be devastating, both for families who are without health insurance today and for those who are at serious risk of becoming uninsured in the near future. Quite simply, lives are on the line.

In 1994, when health reform was last debated, the number of uninsured Americans was nearly 40 million.[1] Today, that number has risen to nearly 50 million. For these uninsured Americans, going without health coverage can have serious consequences. We know that the uninsured are too often burdened by medical debt, they delay care until their health problems grow severe and the cost of treatment escalates, and they often go without any care at all. And worst of all, people who lack coverage may die prematurely.

In 2002, the Institute of Medicine issued a groundbreaking report, *Care without Coverage: Too Little, Too Late*, which estimated that, nationwide, 18,000 adults between the ages of 25 and 64 died in 2000 because they did not have health insurance.[2] Subsequently, The Urban Institute updated that figure, estimating that, in 2006, at least 22,000 adults in the same age group died because they did not have health insurance.[3]

To find out how inaction would affect American families, Families USA generated state-level estimates of the number of deaths that will occur due to a lack of health coverage if health reform doesn't pass. In addition, our report quantifies the number of Americans that died due to a lack of health coverage since the last effort to pass health reform in 1994.

To estimate the number of deaths due to the lack of health coverage, Families USA applied the methodology developed by the Institute of Medicine to state-level population and mortality data. Our report provides one measure of the consequences of the failure to enact health reform—there are many other serious consequences (see "Why Insurance Matters" on page 5).

As Congress and the public continue to debate health reform, our findings serve as a stark reminder that more is at stake than partisan politics: Delaying action on health reform will have deadly consequences.

KEY FINDINGS

■ In the 15-year period since our nation last debated health reform (1995-2009), more than 294,000 American adults (25-64 years old) died prematurely due to a lack of health coverage (see Table 1).

■ The following 12 states experienced the largest number of premature deaths due to a lack of coverage over the 15-year period 1995-2009: California (38,400), Texas (32,200), Florida (24,400), New York (18,800), Georgia (10,900), Illinois (10,800), North Carolina (9,600), Ohio (9,500), Pennsylvania (8,700), Louisiana (8,200), New Jersey (7,800), and Michigan (7,500) (see Table 2 on page 3).

■ If Congress fails to pass health reform, the number of Americans who lose their lives will continue to grow. In the next 10 years alone (2010-2019), another 275,000 adults will die alone prematurely due to a lack of health coverage (see Table 3 on page 4).

■ The following 12 states are projected to have the largest number of premature deaths due to a lack of health coverage over the next 10 years: California (34,600), Texas (31,700), Florida (25,400), New York (13,900), Georgia (11,500), North Carolina (9,600), Illinois (9,400), Ohio (8,900), Louisiana (7,700), Michigan (7,600), Pennsylvania (7,500), and Tennessee (7,500) (see Table 4 on page 4).

■ Every day in 2010, approximately 68 non-elderly adult Americans died prematurely due to lack of health coverage. If health reform fails, that number will reach 84 Americans every day by 2019.

Table 1.

Deaths Due to a Lack of Health Coverage, 25- to 64-Year-Olds, 1995-2009

Year	Deaths
1995	19,300
1996	18,500
1997	18,200
1998	18,100
1999	16,700
2000	17,200
2001	17,900
2002	18,900
2003	19,700
2004	19,900
2005	21,000
2006	22,000
2007	21,300
2008	22,200
2009*	23,400
**Total ** **	**294,400**

* 2009 deaths were extrapolated from 2008 deaths using 2009 National Health Interview Survey data. See the Methodology for details.

**Total does not add due to rounding.

Table 2.

Deaths Due to a Lack of Health Coverage, 25- to 64-Year-Olds, By State, 1995-2009

State	Deaths	State	Deaths
Alabama	5,700	Montana	1,000
Alaska	700	Nebraska	1,000
Arizona	6,500	Nevada	2,700
Arkansas	4,300	New Hampshire	800
California	38,400	New Jersey	7,800
Colorado	3,400	New Mexico	3,000
Connecticut	2,100	New York	18,800
Delaware	700	North Carolina	9,600
District of Columbia	1,000	North Dakota	400
Florida	24,400	Ohio	9,500
Georgia	10,900	Oklahoma	5,100
Hawaii	700	Oregon	3,200
Idaho	1,200	Pennsylvania	8,700
Illinois	10,800	Rhode Island	700
Indiana	5,100	South Carolina	5,700
Iowa	1,600	South Dakota	500
Kansas	1,900	Tennessee	6,600
Kentucky	4,700	Texas	32,200
Louisiana	8,200	Utah	1,400
Maine	1,000	Vermont	400
Maryland	5,000	Virginia	6,000
Massachusetts	*	Washington	5,300
Michigan	7,500	West Virginia	2,200
Minnesota	1,900	Wisconsin	3,500
Mississippi	4,900	Wyoming	500
Missouri	5,000	**Total****	**292,300**

Note: State estimates were based on two-year averages, from 1994-95 through 2008-09. Accordingly, the total in this table is slightly different from the national total in Table 1, which is based on one-year estimates.

* Massachusetts data are not reportable because they do not reflect the state's health reform program.

** Total does not add due to rounding.

Table 3.

Deaths Due to a Lack of Health Coverage, 25- to 64-Year-Olds, 2010-2019

Year	Lives Lost if Current Trends Continue
2010	25,000
2011	25,900
2012	26,200
2013	26,600
2014	26,900
2015	27,300
2016	28,200
2017	29,100
2018	29,500
2019	30,500
Total *	275,100

* Total does not add due to rounding.

Table 4.

Deaths Due to a Lack of Health Coverage, 25- to 64-Year-Olds, By State, 2010-2019

State	Deaths	State	Deaths
Alabama	5,100	Montana	1,100
Alaska	600	Nebraska	900
Arizona	7,300	Nevada	3,000
Arkansas	4,000	New Hampshire	700
California	34,600	New Jersey	6,500
Colorado	3,200	New Mexico	3,400
Connecticut	1,700	New York	13,900
Delaware	700	North Carolina	9,600
District of Columbia	600	North Dakota	400
Florida	25,400	Ohio	8,900
Georgia	11,500	Oklahoma	5,000
Hawaii	500	Oregon	3,600
Idaho	1,100	Pennsylvania	7,500
Illinois	9,400	Rhode Island	700
Indiana	5,300	South Carolina	5,500
Iowa	1,500	South Dakota	300
Kansas	2,000	Tennessee	7,500
Kentucky	4,400	Texas	31,700
Louisiana	7,700	Utah	1,200
Maine	900	Vermont	300
Maryland	4,100	Virginia	5,600
Massachusetts	*	Washington	4,200
Michigan	7,600	West Virginia	2,700
Minnesota	1,800	Wisconsin	2,400
Mississippi	4,900	Wyoming	300
Missouri	5,200	Total**	279,400

Note: State estimates were based on two-year averages, from 1994-95 through 2008-09. Accordingly, the total in this table is slightly different from the national total in Table 3, which is based on one-year estimates.

* Massachusetts data are not reportable because they do not reflect the state's health reform program.

** Total does not add due to rounding.

WHY INSURANCE MATTERS

The uninsured are less likely to have a usual source of care outside of the emergency room.

- Uninsured adults are more than five times less likely to have a regular source of care than insured adults (52 percent versus 10 percent).[4]

The uninsured often go without screenings and preventive care.

- Uninsured adults are seven times as likely as insured adults to have gone without preventive care in the last year (42 percent versus 6 percent).[5]

- Uninsured adults are more likely to be diagnosed with a disease in an advanced stage. For example, uninsured women are substantially more likely to be diagnosed with advanced stage breast cancer than women with private insurance.[6]

The uninsured often delay or forgo needed medical care.

- Uninsured adults are six times as likely as privately insured adults to go without needed care due to cost (24 percent versus 4 percent).[7]

- Cancer patients without health insurance are more than five times more likely to delay or forgo cancer-related care because of medical costs than insured patients (27 percent versus 5 percent).[8]

Uninsured Americans are sicker and die earlier than those who have insurance.

- Uninsured adults are 25 percent more likely to die prematurely than adults with private health insurance.[9]

- Uninsured Americans between 55 and 64 years of age are at much greater risk of premature death than their insured counterparts. This makes uninsurance the third leading cause of death for the near-elderly, following heart disease and cancer.[10]

The uninsured pay more for medical care.

- Uninsured patients are unable to negotiate the discounts on hospital and doctor charges that insurance companies do. As a result, uninsured patients are often charged more than 2.5 times what insured patients are charged for hospital services.[11]

- Three out of five uninsured adults (61 percent) under the age of 65 report having problems with medical bills.[12]

ENDNOTES

[1] Carmen DeNavas-Walt, Bernadette D. Proctor, and Jessica C. Smith, *Income, Poverty, and Health Insurance in the United States: 2008* (Washington: U.S. Census Bureau, September 2009).

[2] Institute of Medicine, *Care without Coverage: Too Little, Too Late* (Washington: National Academy Press, 2002).

[3] Stan Dorn, *Uninsured and Dying Because of It: Updating the Institute of Medicine Analysis on the Impact of Uninsurance on Mortality* (Washington: The Urban Institute, January 2008).

[4] Kaiser Family Foundation, *The Uninsured: A Primer, Key Facts about Americans without Health Insurance* (Washington: Kaiser Family Foundation, October 2009).

[5] Ibid.

[6] Michael Halpern, John Bian, Elizabeth Ward, Nicole Schrag, and Amy Chen, "Insurance Status and Stage of Cancer at Diagnosis among Women with Breast Cancer," *Cancer* 110, no. 2 (June 11, 2007): 403-411; Cathy J. Bradley, David Neumark, Lisa M. Shickle, and Nicholas Farrell, "Differences in Breast Cancer Diagnosis and Treatment: Experiences of Insurance and Uninsured Patients in a Safety Net Setting," *Inquiry* 45, no. 3 (Fall 2008): 323-339.

[7] Kaiser Family Foundation, op. cit.

[8] The USA Today/Kaiser Family Foundation & Harvard School of Public Health, *National Survey of Households Affected by Cancer* (Washington: Kaiser Family Foundation, 2006).

[9] Institute of Medicine, *Insuring America's Health* (Washington: National Academy Press, 2002).

[10] J. Michael McWilliams, Alan Zaslavsky, Ellen Meara, and John Ayanian, "Health Insurance Coverage and Mortality among the Near-Elderly," *Health Affairs* 23, no. 4 (July/August 2004): 223-233.

[11] Gerard Anderson, "From 'Soak the Rich' to 'Soak the Poor': Recent Trends in Hospital Pricing," *Health Affairs* 26, no. 3 (May/June 2007): 780-789.

[12] Michelle M. Doty, Sara R. Collins, Sheila D. Rustgi, and Jennifer L. Kriss, *Seeing Red: The Growing Burden of Medical Bills and Debt Faced by U.S. Families* (New York: The Commonwealth Fund, August 2008).

METHODOLOGY

This report seeks to answer two questions:

1. After federal policy makers failed to enact reform legislation in 1994, how many people (25-64 years old) lost their lives because they were uninsured?

2. If federal lawmakers again fail to pass a major coverage expansion in 2010, and current trends continue, how many more people (25-64 years old) will die by 2019 because they are uninsured?

To estimate the number of lives that are lost because people are uninsured, Families USA applied the methodology developed by the Institute of Medicine (IOM) in 2002.[1] This methodology was based on research finding that, after controlling for numerous factors, the absence of insurance coverage increases mortality by an average of 25 percent for adults aged 25-64.[2] In 2009, IOM issued a follow-up report concluding that more recent research confirms earlier findings about the effect of insurance on mortality, explaining that "the body of evidence on the effects of uninsurance on adults' health has strengthened considerably since 2002."[3]

The original IOM report estimated mortality effects algebraically, solving for UD, the number of individuals who would have died if the entire population had health coverage. Their analysis began with the obvious fact that the total number of deaths in a population is the sum of deaths among the insured and deaths among the uninsured. The number of deaths among the insured can be represented as the product of (a) the percentage of the population with insurance coverage and (b) the number who would die if everyone had health coverage. The number of deaths among the uninsured is likewise the product of (a) the percentage of the population without coverage and (b) the number of total deaths if everyone had health coverage, increased by 25 percent, based on the above-described finding that uninsurance increases mortality by 25 percent. Expressed algebraically:

let PI = the percentage of the population with insurance;

let PU = the percentage of the population without insurance;

let AD = the number of actual deaths; and

let UD = the number of deaths that would result if coverage were universal.

Accordingly:

$$AD = (UD * PI) + (UD * 1.25 * PU) = UD * (PI + (1.25 * PU)).$$

As a result:

$$UD = AD / (PI + (1.25 * PU));$$

and the number of lives lost because of uninsured is $AD - UD$.

Applying the IOM methodology to estimate the annual mortality effects of uninsurance within a given population of adults ages 25 through 64 thus requires three facts:

- The size of the population;

- The population's mortality rate, which, together with total population size, allows a calculation of the number of deaths; and

- The percentage of the population that is uninsured.

Like the IOM, Families USA applied this analysis to uninsured adults in four age groups: 25-34, 35-44, 45-54, and 55-64. The resulting mortality estimates were summed to show the overall number of deaths attributable to an absence of insurance coverage among adults aged 25-64.

For 1995 through 2008 in the nation as a whole, Families USA determined the total number of adults within each 10-year age band and the percentage who lacked health coverage based on the Current Population Survey (CPS) data.[4] To calculate the number of deaths for a given year, we applied to each 10-year cohort the age-specific, national annual mortality rate reported by the Centers for Disease Control and Prevention's National Center for Health Statistics (NCHS). We used final mortality rate estimates through 2006. However, we used preliminary mortality rates for 2007, since final rates are not yet available. For 2008, we projected a mortality rate for each age group based on the median change in the age group's national mortality rates from 2000 through 2007, calculated using three-year rolling averages.[5]

To develop state mortality estimates, we began with state-level population size and percentages without coverage in each 10-year age band, using two-year CPS averages from 1994-95 through 2007-08. To calculate the number of deaths in each state and age group, we applied NCHS-reported, state- and age-specific mortality rates, averaging consecutive years' mortality rates to apply to the two-year CPS population numbers.[6]

To estimate future mortality effects in the absence of policy change, we adjusted national mortality estimates for 2008 and state-level estimates for 2007-2008 to reflect a continuation of recent trends. In particular, we modified these numbers to reflect the following:

- the increased number of nonelderly uninsured projected in the Congressional Budget Office (CBO) baseline for 2010 through 2019;

- trending forward the median annual change in the overall mortality rate for all adults aged 25-64, based on three-year rolling averages of NCHS data from 2000 through 2007; and

- trending forward the median annual change in the proportion of the uninsured that is made up of adults aged 25-64, based on three-year rolling averages of national CPS data from 2000 through 2008.[7]

For 2009, current CBO baseline projections of the uninsured were not available.[8] Accordingly, we estimated the overall change in the number of uninsured based on the increase since 2008 recorded by the Centers for Disease Control and Prevention at the time of its January through June 2009 National Health Interview Survey.[9]

For several reasons, this methodology underestimates the mortality effects of uninsurance:

- Our mortality estimates ignore the benefits of health insurance for individuals under 25 years of age. Even with children, recent research has shown that the absence of insurance coverage increases mortality.[10]

- Like the IOM, we calculated the mortality effects of uninsurance within 10-year age bands rather than for all adults aged 25-64. This lowers mortality estimates by more than 15 percent, according to the findings of observers who conclude that the alternative, higher mortality estimates are sounder, since the studies on which the IOM relied analyzed the effect of insurance on the entire population of adults aged 25-64, rather than each 10-year cohort.[11]

- The IOM's finding that the absence of insurance raises mortality rates by 25 percent fails to account for the increasing effectiveness of health care in preserving health and saving lives. A study published by Harvard Medical School researchers late in 2009 found, using more recent data, that the lack of health insurance now raises mortality rates by 40 percent.[12] If we had applied the latter estimate of the impact of uninsurance on mortality, rather than the 25 percent figure used by IOM, our mortality estimates would have increased by 60 percent.

- Our estimates of future mortality are based on CBO projections, which other experts have concluded significantly underestimate likely future levels of uninsurance.[13]

Our estimates are also subject to other limitations. For example, we trended forward mortality rates and the proportion of uninsured only among adults aged 25-64, rather than within each 10-year age band. And more broadly, future projections involve inherent uncertainty.

In short, our numbers[14] are best viewed as conservative estimates of the general magnitude of lives lost because of uninsurance, rather than a precise and certain "body count."

METHODOLOGY ENDNOTES

[1] Institute of Medicine, *Care without Coverage: Too Little, Too Late*, May 2002.

[2] P. C. Franks, M. Clancy, and M. R. Gold, "Health Insurance and Mortality: Evidence from a National Cohort," *Journal of the American Medical Association* 270, no. 6 (1993): 737–41; P. D. Sorlie, N. H. Johnson, E. Backlund, and D. D. Bradham, "Mortality in the Uninsured Compared with That in Persons with Public and Private Health Insurance," *Archives of Internal Medicine* 154 (1994): 2,409–2,416.

[3] Institute of Medicine, *America's Uninsured Crisis: Consequences for Health and Health Care*, February 23, 2009, p. 70.

[4] Each year's insurance levels are reported in March of the following year. For example, insurance information from 2007 is reported in the March 2008 CPS.

[5] We used three-year rolling averages to "smooth out" potential random fluctuations, thus providing a more reliable forward trend. For example, we calculated the change from 2000 to 2001 by comparing the average annual mortality rate from 1997 through 2000 to the same rate from 1998 through 2001. For another example of how rolling averages can guard against the effects of random fluctuations, see Government Accountability Office (GAO), *State and Local Fiscal Challenges: Rising Health Care Costs Drive Long-term and Immediate Pressures*, Statement of Stanley J. Czerwinski, Director, Strategic Issues, GAO-09-210T, November 19, 2008; GAO, *Medicaid: Strategies to Help States Address Increased Expenditures during Economic Downturns*, GAO-07-97, October 2006.

[6] As with the national data, we trended forward age-specific mortality rates for each age group for years after which NCHS data were not available. Because NCHS has not published preliminary mortality rates by age group at the state level for 2007, this trending forward applied to 2007 as well as 2008 at the state level.

[7] In the case of state projections, we analyzed each state's CPS numbers from 1999-2000 through 2007-2008, again calculating the median change in three-year rolling averages.

[8] We relied on CBO estimates reported in December 2009, as CBO analyzed the effects of House and Senate final health reform bills. Such estimates, including baseline projections of the number of uninsured, did not describe events before 2010, the first year of the CBO scoring window. See, e.g., CBO, *Patient Protection and Affordable Care Act, Incorporating the Manager's Amendment* (Cost estimate for the amendment in the nature of a substitute to H.R. 3590, incorporating the effects of changes proposed in the manager's amendment released on December 19, 2009), December 19, 2009. We did not use earlier CBO estimates of 2009 uninsurance levels because those estimates did not reflect the current economic downturn and the resulting loss of health coverage. In December 2008, for example, CBO was projecting just 45 million uninsured for 2009, a number already exceeded by 2008. CBO, *Key Issues in Analyzing Major Health Insurance Proposals*, December 2008.

[9] To account for any changes in the proportion of adults aged 25-64 among all uninsured, we adjusted 2008 national mortality estimates to reflect changes from 2008 to 2009 in NHIS point-in-time uninsurance estimates for adults in this age group. Michael E. Martinez and Robin A. Cohen, Division of Health Interview Statistics, National Center for Health Statistics, *Health Insurance Coverage: Early Release of Estimates from the National Health Interview Survey*, *January-June 2009*, December 2, 2009.

[10] One recent study found, after controlling for multiple factors, that in-hospital mortality rates were 60 percent higher for uninsured than insured children. Out of an estimated 38,649 hospital deaths among uninsured children over an 18-year period, 16,787 deaths, or 37.8 percent, may have been prevented by health insurance. Fizan Abdullah, Yiyi Zhang, Thomas Lardaro, Marissa Black, Paul M. Colombani, Kristin Chrouser, Peter J. Pronovost, and David C. Chang, "Analysis of 23 Million U.S. Hospitalizations: Uninsured Children Have Higher All-Cause In-Hospital Mortality," *Journal of Public Health* (October 29, 2009): 1-9.

[11] Stan Dorn, *Uninsured and Dying Because of It: Updating the Institute of Medicine Analysis on the Impact of Uninsurance on Mortality*, January 2008, prepared by the Urban Institute for the Robert Wood Johnson Foundation.

[12] Andrew P. Wilper, Steffie Woolhandler, Karen E. Lasser, Danny McCormick, David H. Bor, and David U. Himmelstein, "Health Insurance and Mortality in US Adults," *American Journal of Public Health* 99, no. 12 (December 2009): 2,289-2,295.

[13] For example, CBO's projected number of uninsured in 2019 is 6 percent, 15 percent, and 22 percent lower than the numbers in the best-, intermediate-, and worst-case scenarios, respectively, estimated by Urban Institute researchers. Author's calculations from John Holahan, Bowen Garrett, Irene Headen, and Aaron Lucas, *Health Reform: The Cost of Failure*, May 21, 2009, prepared by the Urban Institute for the Robert Wood Johnson Foundation.

[14] Supplemental tables, available upon request, estimate the number of lives that would be saved from 2010-2019, nationally and in each state, if the Senate health reform bill were enacted. These estimates simply apply, to the estimated number of deaths resulting from uninsurance during a year, the proportionate reduction in uninsurance for that year as scored by CBO. Our methodology assumes that the uninsured who receive coverage will have the same health status as those who fail to receive coverage. In fact, those who receive coverage are likely to have worse health status, on average, than those who do not obtain

help, which means that legislation will save more lives than we project in our supplemental tables. As the 2009 IOM report explains, "…new studies provide compelling evidence demonstrating that health insurance is the most beneficial for adults who have chronic conditions such as hypertension, diabetes, and cancer, as well as serious injury, heart attack, stroke, and other acute conditions for which effective treatments are available." op. cit., p. 74. There are two reasons why those who gain insurance coverage under the Senate legislation are likely to have worse health status, on average, than the uninsured who do not gain coverage. First, the uninsured who know they have health problems and so expect to use their health insurance are, all else equal, more willing to pay applicable premiums and to complete the necessary paperwork. Second, undocumented immigrants are ineligible for help under the Senate bill. Immigrants are healthier, on average, than the native-born, and this differential is particularly great for recent arrivals, who would be disproportionately excluded from coverage by the Senate bill's immigration status restrictions. See, for example, Heather Antecol and Kelly Bedard, "Unhealthy Assimilation: Why Do Immigrants Converge to American Health Status Levels?" *Demography* 43, no. 2 (May 2006): 337-360.

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