

No Care for the Caregivers: Declining Health Insurance Coverage for Health Care Personnel and Their Children, 1988–1998

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Two years ago, more Americans were uninsured than at any other time in the previous 2 decades, yet the unemployment rate in 1999 was the nation's lowest since 1969.^{1,2} Because most Americans secure health insurance through an employer, accounting for this paradox has been a central task of health policy research. Explanations have focused on rising costs of coverage,^{3–5} as well as on growing service-sector and part-time employment,^{6,7} declining unionization,⁸ segregation of high- and low-wage workers into different firms,⁹ shrinking job tenure,¹⁰ and error in the measurement of coverage.^{11,12} The role of institutions of care—hospitals, medical offices, nursing homes, and home care agencies—has received less attention despite the health care industry's dramatic growth and long-standing importance as an employer in inner-city, rural, and minority communities.^{13–15} We examined trends in the health insurance coverage of personnel working in health establishments and their children over the past decade.

METHODS

We analyzed data from the annual March supplements of the Current Population Survey (CPS) for 1989 through 1999. The CPS is an annual Census Bureau survey of a nationally representative sample of approximately 150 000 noninstitutionalized US residents in about 50 000 households. Respondents are asked about their insurance status during the previous calendar year, as well as occupational and demographic characteristics. One quarter of the respondents are asked about union membership.

We used Standard Industrial Classification (SIC) codes to identify principal place of employment in the week before the survey. Persons employed in the offices of physicians or

Objectives. This study examined trends in health insurance coverage for health care workers and their children between 1988 and 1998.

Methods. We analyzed data from the annual March supplements of the Current Population Survey (CPS), a Census Bureau survey that collects information about health insurance from a nationally representative sample of noninstitutionalized US residents.

Results. Of the health care personnel younger than 65 years, 1.36 million (90% confidence interval [CI] = 1.28 million, 1.45 million) were uninsured in 1998, up 83.4% from 1988; the proportion uninsured rose from 8.4% (90% CI = 7.8%, 9.1%) to 12.2% (90% CI = 11.5%, 12.9%). Declining coverage rates in the growing private-sector health care workforce—and declining health employment in the public sector, which provided health insurance benefits to more of its workers—accounted for the increases. Households with a health care worker included 1.12 million (90% CI = 1.05 million, 1.20 million) uninsured children, accounting for 10.1% (90% CI = 9.5%, 10.8%) of all uninsured children in the United States.

Conclusions. Health care personnel are losing health insurance coverage more rapidly than are other workers. Increasingly, the health care sector is consigning its own workers and their children to the ranks of the uninsured. (*Am J Public Health.* 2002;92:404–408)

other health practitioners (SIC codes 812, 820–830), in hospitals (SIC code 831), in nursing and personal care facilities (SIC code 832), or in other health services (SIC code 840) were defined as health personnel. Non-health personnel were persons employed in other settings. People were defined as public-sector employees if they reported employment by federal, state, or local government; they were defined as private-sector employees if they reported work for a private employer. Persons older than 65 years were excluded from the analysis because virtually all are covered by Medicare. Children in households of health care personnel were defined as persons younger than 18 years who shared living quarters (rooms, an apartment, or a house) with at least 1 health care worker.

We classified occupations according to the Census Bureau's Occupational Classification Codes for Detailed Occupational Categories. Physicians, registered nurses, and licensed practical nurses were each identified by single codes (codes 84, 95, and 207, respectively). Other occupations were grouped as

follows: managers and management-related occupations (codes 3–37); aides (codes 445–447); food service, cleaning, building service, and laundry workers (codes 433–444, 448–455, 747, and 748); clerical and administrative support workers (codes 205, 276, 303, and 390); and other workers (all other codes).

Neither SIC nor Occupational Classification Codes identify public health workers.

People were considered insured if they reported any health insurance, public or private.

Population estimates were derived by using weights supplied by the Census Bureau. These weights adjust for the complex sample design and the failure to obtain interviews from some households. Weights for survey data for the March 1994 annual CPS and thereafter were obtained from an updated sample framework based on the 1990 decennial census. Weights for data prior to the 1994 CPS were based on the 1980 census. The change had little effect on estimates of the percentage uninsured but did alter estimates of the number uninsured.¹⁶ For exam-

ple, use of the 1990-based weights for 1992 data resulted in an estimate of the total number of uninsured Americans that was 1.2 million higher than the 38.6 million estimated with the 1980-based weight.¹⁷ Percentage estimates (e.g., 15.0% of the Americans uninsured in 1992) were closely similar regardless of weight used.

In addition, in 1993 the Census Bureau began computer-assisted interviewing, and in 1994 health insurance questions were modified to minimize underreporting of coverage, particularly private health insurance coverage.^{16,18,19} The latter change raised CPS estimates of health insurance coverage and decreased estimates of the number and proportion uninsured for years after 1994.¹⁹

In keeping with Census Bureau conventions for demographic data, we calculated 90% confidence intervals (CIs) with parameters supplied by the Census Bureau to correct for expected correlations among individuals within a sampled household according to the following formulas:

$$\begin{aligned}
 (1) \quad & S_x = (ax^2 + bx)0.5 \\
 (2) \quad & S_{y,p} = [bp(100-p)/y]0.5 \\
 (3) \quad & S_{l-m} = (S_l^2 + S_m^2)0.5 \\
 (4) \quad & S_{l/m} = l/m[(S_l/l)^2 + (S_m/m)^2 - 2r(S_l S_m/lm)]0.5
 \end{aligned}$$

where S_x , $S_{y,p}$, S_{l-m} , and $S_{l/m}$ are the standard errors of the estimated number x , percentage y , difference $l-m$, and ratio l/m , respectively; p is the total number of persons (the base of the percentage); l and m are estimated numbers or percentages; r is the correlation between l and m ; and a and b are the Census Bureau's adjustment parameters for the particular characteristics of the population under study (e.g., age, employment, educational status). The correlation r is assumed to be zero in most estimates of the standard error of a ratio; however, the assumed value of r is 0.7 if the denominator m is a number estimate of families or households and the numerator l is a number estimate of people in those families or households with specified characteristics. Standard errors for statewide estimates are obtained with a and b parameters multiplied by state-specific f^2 factors; for regional division standard errors, a population-weighted average of state f^2 factors is used.¹⁶

RESULTS

Between 1988 and 1998, the number of uninsured health care personnel increased 83.4%, from 743 000 (90% CI=681 000, 806 000) to 1.36 million (90% CI=1.28 million, 1.45 million), and the proportion uninsured rose from 8.4% (90% CI=7.8%, 9.1%) to 12.2% (90% CI=11.5%, 12.9%) (Table 1). The number of uninsured workers in other industries grew more modestly over the period, up 37.8%, whereas the proportion who were uninsured increased from 14.7% (90% CI=14.5%, 15.0%) to 17.9% (90% CI=17.7%, 18.2%).

Coverage of health care workers varied by place of employment. Twenty percent (90% CI=17.9%, 22.1%) of nursing home personnel were uninsured in 1998, compared with 8.2% (90% CI=7.3%, 9.0%) of hospital workers, 8.7% (90% CI=7.0%, 10.4%) of those employed in medical offices, and 15.9% (90% CI=14.3%, 17.4%) of workers at other health care establishments.

The private sector accounted for all of the growth in the number of uninsured health personnel; the number of uninsured personnel in private institutions rose by 614 000 (90% CI=517 000, 712 000)—a 101.4% increase between 1988 and 1998. The relative growth of private health care employment—38.4% compared with a 19.6% decline in public employment—contributed to this large increase. However, a rise in the proportion of private-sector health workers uninsured—from 8.6% (90% CI=7.8%, 9.3%) to 12.5% (90% CI=11.7%, 13.3%)—accounted for most of the increase in the number of uninsured private-sector health personnel. The proportion of all public-sector health personnel who were uninsured remained stable, at 7.6% (90% CI=5.9%, 9.2%) in 1988 and 7.8% (90% CI=5.9%, 9.6%) in 1998.

Workers in public hospitals and nursing homes were much less likely to be uninsured than were workers in comparable private institutions in 1998. Uninsurance remained steady at 6.5% (90% CI=4.6%, 8.3%) in 1988 and 6.3% (90% CI=4.1%, 8.4%) in 1998 among public hospital workers, but it rose from 5.4% (90% CI=4.5%, 6.3%) to 8.5% (90% CI=7.5%, 9.4%) in private hospitals. Of the public nursing home workers, 7.5% (90% CI=2.3%, 12.6%) were uninsured in 1998, down from

11.9% (90% CI=5.7%, 18.1%) 10 years earlier, whereas in private nursing homes, the proportion uninsured grew to 20.9% (90% CI=18.7%, 23.2%) from 18.8% (90% CI=16.3%, 21.3%). Total employment at public hospitals also declined substantially—by 30.4%—but increased at private hospitals.

Among occupational groups, aides had the highest uninsurance rate in 1998—23.8% (90% CI=21.7%, 25.9%)—and accounted for 37.0% of the uninsured health personnel. Food service, cleaning, building service, and laundry workers also had relatively low rates of health coverage—19.7% (90% CI=11.7%, 27.7%) were uninsured in 1998. The proportion of uninsured licensed practical nurses rose steeply between 1988 and 1998, from 7.3% (90% CI=4.2%, 10.3%) to 14.5% (90% CI=10.3%, 18.7%), and uninsurance among physicians increased from 3.3% (90% CI=1.5%, 5.2%) to 5.4% (90% CI=3.3%, 7.6%). Personnel in management-related occupations saw the sharpest fall in coverage, from 2.8% (90% CI=1.4%, 4.2%) uninsured in 1988 to 7.3% (90% CI=5.5%, 9.1%) in 1998, and experienced a 282% (90% CI=104%, 460%) increase in the number uninsured.

Unionized workers had a higher rate of insurance than did nonunionized health workers in both years and experienced a milder decline in coverage. In 1988, 6.3% (90% CI=4.5%, 8.1%) of the union members employed in health care settings were uninsured, compared with 8.8% (90% CI=8.1%, 9.6%) of the nonunion workers. By 1998, the proportion of union members uninsured had risen to 7.8% (90% CI=6.0%, 9.7%), whereas among nonunion health workers, 13.3% (90% CI=12.6%, 14.1%) were uninsured. Unionization rates among health personnel decreased from 10.9% (90% CI=9.8%, 11.3%) in 1988 to 9.7% (90% CI=9.0%, 10.3%) in 1998.

In 1998, 20.5% (90% CI=17.8%, 23.1%) of Black health care workers were uninsured, compared with 10.4% (90% CI=9.7%, 11.2%) of White health personnel (Table 2). Black women, who constituted 12.9% of the health care workforce in 1998, accounted for 22.5% of the uninsured personnel. Hispanic workers—who may be of any race—were twice as likely as non-Hispanics to be uninsured: 24.7% (90% CI=20.6%, 28.7%) vs 11.2% (90% CI=10.5%, 11.9%).

TABLE 1—Percentage and Number of Health Personnel and Workers in Other Industries Without Health Insurance, by Occupational Characteristics, 1988 and 1998

	% Uninsured (90% CI)		No. Uninsured, 1000s of Workers (90% CI)	
	1988	1998	1988	1998
Health personnel	8.4 (7.8, 9.1)	12.2 (11.5, 12.9)	743 (681, 806)	1363 (1279, 1447)
Private sector	8.6 (7.8, 9.3)	12.5 (11.7, 13.3)	606 (549, 662)	1220 (1140, 1299)
Public sector	7.6 (5.9, 9.2)	7.8 (5.9, 9.6)	103 (80, 127)	85 (64, 106)
Full-time	8.0 (7.3, 8.8)	11.5 (10.7, 12.2)	559 (505, 613)	1028 (955, 1101)
Part-time	10.1 (8.5, 11.7)	15.2 (13.4, 16.9)	184 (153, 216)	335 (293, 377)
Union member	6.3 (4.5, 8.1)	7.8 (6.0, 9.7)	59 (41, 76)	85 (64, 106)
Not union member	8.8 (8.1, 9.6)	13.3 (12.6, 14.1)	669 (609, 728)	1341 (1258, 1424)
Place of employment				
Practitioner's office	6.3 (4.5, 8.0)	8.7 (7.0, 10.4)	63 (44, 81)	129 (103, 155)
Hospital	5.6 (4.8, 6.4)	8.2 (7.3, 9.0)	251 (215, 288)	400 (354, 455)
Private hospital	5.4 (4.5, 6.3)	8.5 (7.5, 9.4)	190 (158, 222)	358 (315, 401)
Public hospital	6.5 (4.6, 8.3)	6.3 (4.1, 8.4)	61 (43, 79)	41 (27, 56)
Nursing home	18.1 (15.7, 20.4)	20.0 (17.9, 22.1)	256 (220, 293)	365 (321, 408)
Private nursing home	18.8 (16.3, 21.3)	20.9 (18.7, 23.2)	239 (203, 274)	351 (309, 394)
Public nursing home	11.9 (5.7, 18.1)	7.5 (2.3, 12.6)	17 (8, 27)	10 (3, 17)
Other health care establishment	9.1 (7.6, 10.6)	15.9 (14.3, 17.4)	173 (143, 203)	470 (420, 519)
Occupation				
Doctor of medicine	3.3 (1.5, 5.2)	5.4 (3.3, 7.6)	16 (7, 26)	31 (19, 44)
Registered nurse	3.2 (2.1, 4.3)	5.0 (3.8, 6.2)	46 (31, 62)	89 (67, 110)
Licensed practical nurse	7.3 (4.2, 10.3)	14.5 (10.3, 18.7)	27 (15, 40)	52 (36, 69)
Management	2.8 (1.4, 4.2)	7.3 (5.5, 9.1)	21 (11, 32)	81 (61, 102)
Aides	18.6 (16.4, 20.9)	23.8 (21.7, 25.9)	295 (255, 335)	504 (453, 556)
Food, cleaning, building, and laundry services	15.1 (6.9, 23.3)	19.7 (11.7, 27.7)	101 (78, 125)	129 (103, 155)
Clerical and administrative	7.7 (6.1, 9.2)	12.9 (11.2, 14.7)	117 (92, 142)	242 (207, 278)
Other occupation	6.1 (4.8, 7.3)	8.6 (7.4, 9.9)	119 (94, 144)	234 (199, 269)
Workers in other industries	14.7 (14.5, 15.0)	17.9 (17.7, 18.2)	15 240 (14 968, 15 512)	21 000 (20 682, 21 317)
Private sector	15.4 (15.1, 15.7)	18.9 (18.6, 19.2)	12 200 (11 954, 12 446)	17 220 (16 930, 17 509)
Public sector	6.1 (5.6, 6.5)	7.3 (6.8, 7.7)	952 (881, 1023)	1245 (1165, 1325)

Note. CI = confidence interval.

Workers earning less than \$25 000 annually, who constituted 52.7% of the health care personnel, were more than 3 times as likely as higher-income workers to lack coverage—19.1% (90% CI=17.9%, 20.3%) vs 6.0% (90% CI=5.3%, 6.7%)—and accounted for 74.1% of all uninsured health personnel.

Geographic variations in coverage of health personnel generally mirrored variations in coverage of the general population (Table 3). For instance, in Texas, both health personnel and the general population had the nation's highest rates of uninsurance—21.5% (90% CI=17.6%, 25.4%) and 24.5%, respectively—in 1998.

Children residing with a health care worker accounted for an increasing percentage of all

uninsured children (Table 4). In 1988, 7.52 million children (90% CI=7.33 million, 7.72 million) lived in a household with an adult health care worker. Of these children, 9.4% (90% CI=8.6%, 10.1%)—or 705 000 (90% CI=644 000, 766 000) children—were uninsured, accounting for 8.4% (90% CI=7.7%, 9.1%) of all uninsured children. Ten years later, 9.77 million (90% CI=9.51 million, 9.95 million) children lived in a household with a health care worker. Of these children, 11.5% (90% CI=10.8%, 12.3%)—or 1.12 million (90% CI=1.05 million, 1.20 million) children—were uninsured, accounting for 10.1% (90% CI=9.5%, 10.8%) of all uninsured children in 1998.

DISCUSSION

Health care personnel and their children are losing health coverage more rapidly than are other Americans; 1.36 million health care workers provide care that they and their children cannot expect to receive.

The surge in the number of uninsured health workers was driven by the private health care sector, which expanded substantially while insuring a shrinking proportion of its workers. Meanwhile, public-sector health employment decreased. This dynamic of job privatization was absent in other industries, in which public employment grew more briskly than private employment. We, and others,²⁰

TABLE 2—Percentage and Number of Health Personnel Without Health Insurance, by Demographic Characteristics, 1988 and 1998

	% Uninsured (90% CI)		No. Uninsured, 1000s of Workers (90% CI)	
	1988	1998	1988	1998
White	7.2 (6.5, 7.9)	10.4 (9.7, 11.2)	518 (466, 571)	920 (851, 990)
Black	15.0 (12.2, 17.8)	20.5 (17.8, 23.1)	186 (148, 223)	356 (305, 407)
Hispanic	20.0 (15.0, 24.9)	24.7 (20.6, 28.7)	98 (71, 126)	210 (171, 250)
Non-Hispanic	7.7 (7.1, 8.4)	11.2 (10.5, 11.9)	637 (579, 695)	1150 (1073, 1228)
Female	9.0 (8.2, 9.8)	12.9 (12.1, 13.7)	617 (560, 674)	1130 (1053, 1207)
Male	6.5 (5.2, 7.8)	9.6 (8.2, 10.9)	126 (100, 152)	233 (199, 268)
Married	5.0 (4.3, 5.6)	7.7 (6.9, 8.4)	267 (230, 305)	516 (464, 568)
Unmarried	14.0 (12.6, 15.4)	19.1 (17.8, 20.5)	476 (426, 526)	847 (781, 914)
Annual family income, % of poverty level				
<100	39.0 (33.2, 44.9)	39.5 (34.7, 44.3)	144 (116, 171)	211 (178, 244)
100–124	26.1 (18.8, 33.4)	32.7 (25.7, 39.8)	50 (34, 67)	75 (55, 95)
125–149	20.4 (14.7, 26.2)	27.6 (21.4, 33.8)	53 (37, 70)	74 (55, 94)
≥150	6.2 (5.6, 6.8)	9.9 (9.2, 10.6)	496 (445, 547)	1002 (930, 1074)
Annual personal income, in constant 1998 \$				
<25 000	13.4 (12.2, 14.6)	19.1 (17.9, 20.3)	608 (551, 665)	1010 (937, 1082)
25 000–49 999	3.8 (3.0, 4.6)	6.4 (5.5, 7.3)	115 (90, 140)	251 (215, 287)
50 000–74 999	2.0 (0.7, 3.3)	5.5 (3.9, 7.1)	12 (4, 21)	60 (42, 77)
>74 999	1.3 (0.2, 2.4)	5.0 (3.3, 6.6)	8 (1, 14)	43 (28, 58)

Note. CI = confidence interval.

have found that public-sector workers are more likely to be insured than are their private-sector counterparts. Declining union membership also contributed to the rising number of uninsured health personnel. The increase in employment and decrease in coverage rates at other health institutions (e.g., home care agencies) also played a role.

However, insurance coverage was diminished for virtually every health occupation in every type of institution, suggesting a widespread deterioration in the quality of health care jobs. African American women, who traditionally have sought work in health care, may be particularly vulnerable to these changes—19.2% of working African American women were employed by the health care sector in 1993.¹⁵ We believe that the increasing reliance on market forces in medicine has eroded the quality of health care jobs. In pursuit of minimal labor costs, market medicine denies health benefits to health workers and their children. The profits accruing to chief executive officers and shareholders might be viewed as a transfer of compensation to them from their workers.

A few caveats are due. First, we linked children to health workers on the basis of shared living quarters. Because low-income families may be forced to “double up” in housing, some uninsured children may be living in households with a health care worker who has no parental or financial responsibilities for them. Conversely, uninsured children residing separately from a health care worker parent would be missed by our tabulations. Overall, we suspect that the magnitude of these errors is not large. Second, findings of differences of fewer than 70 000 persons may be due to CPS sampling error and should not be considered significant. Third, some workers may have been offered health insurance but declined it. Presumably, the usual reason an uninsured worker declines employer-sponsored insurance is the same in health care as in other industries—unacceptable levels of cost sharing.^{4,5} Finally, some uninsured health personnel may have access to informal, low-cost care from colleagues. These personnel may be able to avoid some health hazards faced by other uninsured persons, but such

unpaid care is unlikely either to encompass costly therapies or preventive services or to be readily available to most low-status health personnel.

Health care institutions’ escalating dependence on uninsured workers raises troubling questions about medical quality and ethics. Can an uninsured health aide with limited access to care for back pain, seizures, or cough safely lift and feed frail patients? Can a woman without access to family planning services ethically be told to care for persons with cytomegalovirus or listeriosis or those taking high-dose radiopharmaceuticals? And can those denied health coverage and care for themselves and their children be expected to care compassionately for strangers? Uninsured adults and uninsured US children are more likely to be inadequately immunized, to lack a usual source of care or physician, and to have unmet medical needs than their privately insured counterparts.^{17,21,22} In denying care to caregivers, our increasingly market-driven health care system subverts an intuitive and universal ethical instruction: do unto each as you would have done unto you.

TABLE 3—Percentage and Number of Health Personnel Without Health Insurance, by Selected State and Regional Division, 1998

	% Uninsured (90% CI)	No. Uninsured, 1000s of Workers (90% CI)
By state		
New York	12.5 (10.1, 14.8)	110 (88, 133)
Illinois	10.6 (7.6, 13.5)	61 (43, 79)
Florida	8.5 (5.7, 11.3)	43 (29, 58)
Texas	21.5 (17.6, 25.4)	151 (120, 182)
California	14.7 (11.9, 17.6)	154 (122, 186)
By regional division		
New England (Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut)	9.8 (7.4, 12.2)	66 (49, 83)
Middle Atlantic (New York, New Jersey, Pennsylvania)	12.9 (11.2, 14.6)	244 (210, 278)
East North Central (Ohio, Indiana, Illinois, Michigan, Wisconsin)	11.1 (9.4, 12.7)	223 (188, 258)
West North Central (Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas)	7.0 (5.0, 9.0)	65 (46, 85)
South Atlantic (Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida)	11.8 (9.9, 13.6)	209 (175, 244)
East South Central (Kentucky, Tennessee, Alabama, Mississippi)	11.8 (8.9, 14.7)	78 (58, 99)
West South Central (Arkansas, Louisiana, Oklahoma, Texas)	18.6 (15.8, 21.3)	211 (177, 245)
Mountain (Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada)	12.3 (9.7, 14.9)	73 (57, 89)
Pacific (Washington, Oregon, California, Alaska, Hawaii)	13.0 (10.7, 15.2)	193 (158, 229)

Note. CI = confidence interval.

TABLE 4—Children Residing With Health Personnel, 1988 and 1998

	1988	1998
% Uninsured (90% CI)	9.4 (8.6, 10.1)	11.5 (10.8, 12.3)
No. uninsured, 1000s of children (90% CI)	705 (644, 766)	1120 (1050, 1200)
Uninsured children residing with health personnel as a percentage of all uninsured children (90% CI)	8.4 (7.7, 9.1)	10.1 (9.5, 10.8)

Note. CI = confidence interval.

Health care professionals owe it to their uninsured colleagues, to their patients, and to all of the 39 million uninsured Americans to demand universal health insurance coverage. ■

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