

E X E C U T I V E O F F I C E O F T H E P R E S I D E N T

10-Sep-1996 11:29am

TO: Christopher C. Jennings
TO: Jennifer L. Klein
TO: Nancy-Ann E. Min
.
FROM: Barbara D. Woolley
Office of Public Liaison

SUBJECT: AHA Press Conf Today at Noon

FYI,

Dick Davidson, AHA, is holding press conference today at noon to highlight final report on "Recent Trends in Employer Health Insurance Coverage and Benefits" prepared by the Lewin Group. The summary of findings say that employer health coverage in US is shifting to a managed care environment with erosion in employer plan coverage and benefits. Key findings include.

* Employer health plans are the primary source of coverage in the nation.

* Employer health coverage has declined recently due to reduction in the proportion of dependents with coverage.

* Many employers have discontinued retiree coverage.

* The number of uninsured persons will rise from 39.6 million in 95 to 45.6 million by 2002 due in part to the decline in employer coverage.

* Changes in employment, are the primary reasons why individuals become uninsured in America.

* COBRA coverage has had little success in continuing coverage for terminated workers primarily due to the costs of the COBRA premium.

* Employee premium contributions have increased.

* Employers have increased deductibles and out-of-pocket spending limits.

New Estimates of the Underinsured Younger Than 65 Years

Pamela Farley Short, PhD, Jessica S. Banthoin, PhD

We estimate that at least 29 million Americans with private insurance are underinsured. That figure identifies the underinsured younger than 65 years by the risk of large out-of-pocket expenditures for an unusually expensive, catastrophic illness. A slightly smaller number, about 25 million, are underinsured by an alternate definition: they have insurance that pays a smaller proportion of claims than the plan with the largest enrollment in the federal employee program. The federal employee plan was the insurance standard proposed in several recent health system reform bills. Our estimate of the number of people who are underinsured for catastrophic illness is almost half again larger than the number that was widely cited during last year's debates on health system reform. That estimate was based on the same concept but was projected from a study published 10 years ago.

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CONGRESS confronted many difficult and controversial issues when it considered national health system reform last year. Key among them was the minimum benefit package that the public was willing to guarantee and subsidize. The goal was not only to extend coverage to some or all of the uninsured, but to upgrade the coverage of the underinsured as well. The minimum benefit defined the underinsured and determined how much upgrading of existing insurance policies would be required.

The issues that arose last year in defining a minimum benefit for health system reform illustrate the issues that researchers and policy analysts confront when asked for an estimate of the number of Americans who are underinsured.¹ The biggest problem is that different people emphasize different objectives in formulating a definition of underinsured. In particular, there has long been a tension between those who favor generous insurance for primary care and those who would limit insurance to more costly services. Health system reformers who were intent on ensuring easy

access to basic primary and preventive care supported a minimum benefit package with small deductibles and no cost sharing for preventive services. Other reformers who were more concerned about controlling costs and protection against unusually large, financially devastating expenditures supported a minimum benefit package with large deductibles and limits on out-of-pocket expenditures. Continuing legislative interest in medical savings accounts indicates the support for such catastrophic plans.

Still other reformers argued for expanding the range of covered services. Some wanted to upgrade the coverage of mental health care to the level for other services. Others called attention to the uninsured risk of long-term care.

Reformers also had to face the question of whether "one size fits all" in setting insurance standards or identifying the underinsured. For example, do healthy people require less insurance than unhealthy people? Should the standards be relaxed for high-income families who can afford more out-of-pocket expenses?

In one of the minor ironies of the recent debate on national health system reform, the lack of agreement on a benefit standard (and, therefore, on a definition of the underinsured) apparently did not prevent agreement on the number of underinsured Americans. An estimate that placed the number of underinsured at 20 million people was often heard and seemed to be widely

accepted.^{2,3} That estimate, which can be traced back to an article published 10 years ago,⁴ is based on a standard that judges the adequacy of a person's insurance for catastrophic illness. Specifically, in that article, one of us (P.F.S., publishing as Pamela Farley) proposed a definition of the underinsured that singles out people at risk of out-of-pocket expenses exceeding 10% of family income if they are unlucky enough to incur the large medical bills that they have only one chance in 100 of experiencing. The resulting estimate of the underinsured, 12.6% of the privately insured population younger than 65 years, was drawn from a survey conducted in 1977 (namely, the first National Medical Expenditure Survey [NMES] conducted by the Agency for Health Care Policy and Research).

In this article, we provide new estimates of the underinsured that are based on the same definition and the second NMES conducted by the agency in 1987. We also consider alternative definitions of the underinsured that are implied by the minimum benefit packages in recent national health reform proposals. We make estimates based on two of these benefit packages. The first is the fee-for-service benefit package proposed by the Clinton administration in the Health Security Act (HSA). The second is the less generous alternative in several other bills introduced in Congress during the summer of 1994, namely, the plan with the largest enrollment in the federal employee program (the Blue Cross and Blue Shield standard option).

METHODS

Data

The 1987 NMES interviewed a nationally representative sample of about 15 000 households in the civilian noninstitutionalized population of the United States. It was designed to provide estimates of insurance coverage and the use of health services, expenditures, and sources of payment for the 1987 calendar year. The household survey included four rounds of personal and telephone interviews at approximately 4-month intervals.⁵

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The views expressed herein are those of the authors. No official endorsement by the US Department of Health and Human Services, the Agency for Health Care Policy and Research, or RAND is intended or should be inferred.

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A supplementary survey of the employers and insurance companies identified by the household respondents was conducted as part of NMES.⁶ In the Health Insurance Plan Survey (HIPS), the source of each household's private insurance at the end of the year was contacted to verify enrollment, ascertain premiums, and obtain a copy of the policy or employee booklet describing the benefit provisions. The response rate for completion of the fourth round of the household survey was 80%. The HIPS response rate was 62% among households completing the survey that were eligible for HIPS. Policy booklets were obtained for 74% of covered policyholders. The Agency for Health Care Policy and Research imputed benefits for the 26% without booklets. Our analysis uses both reported and imputed benefits.

All of our estimates of the adequacy of private insurance are drawn from HIPS and refer to the privately insured population at the end of 1987. We identify people who were uninsured for all or part of the year from the repeated household interviews, after reconciling with HIPS. All estimates are restricted to the population younger than 65 years.

Definitions of Underinsured

We provide estimates for several definitions of the underinsured, based on Farley's⁴ measure of catastrophic coverage and the insurance standards established by the HSA and the federal employee program. In evaluating health insurance plans against the HSA and federal employee benefit packages, we make two types of comparisons. The first assumes a flexible standard based on the actuarial value of a person's insurance compared with the actuarial value of the benefit package. Actuarial value is an indicator of overall plan generosity, defined as the average claims paid per policyholder. Because policies with different provisions can have the same actuarial value, this definition of underinsured does not demand adherence to specific policy provisions. However, we also consider some of the specific provisions that are common to the HSA and federal employee benefit standards, such as full coverage of preventive services.

Reflecting the long-standing disagreement that was evident in the recent national debates, the definitions of the underinsured that we consider give varying weight to coverage of the relatively predictable and routine expenditures that are associated with primary care. The definition that evaluates a person's coverage for catastrophic illness gives no weight to coverage of such services. The definition that demands full coverage of preventive care gives great weight

to primary care. And the standard based on actuarial value falls somewhere in between, because coverage of primary care adds considerably to the number of claims paid by a policy and is reflected in a higher actuarial value.

In evaluating each person's insurance for catastrophic illness, we take the approach in the earlier Farley study,⁴ and use a benefit standard that varies both with the risk of catastrophic illness and family income. Specifically, the method considers different catastrophic scenarios for persons at risk of different expenditures. Out-of-pocket expenditures are also evaluated in relation to family income. Thus, unlike the uniform standards based on the HSA and federal employee benefit packages, the Farley standard for defining the underinsured depends on individual circumstances.

Coverage of Catastrophic Illness.—Replicating the Farley method, we calculate each person's out-of-pocket expenditures in the event of a catastrophic illness. Here, "catastrophic illness" is defined by a high level of total expenditure, corresponding to the average for people in the 99th percentile of actual expenses in 1987 for two different risk groups (Table 1). Constructing the catastrophic illness scenarios in this fashion means that each person has one chance in 100 of experiencing the level of expenditure specified for his or her risk group (\$25 000 for low risks and \$50 000 for high risks). The mix of expenditures by service in each scenario is based on observed averages, in round numbers, for people in the risk group who were hospitalized.

The risk groups are defined by the expected value of each person's health expenditures. (The expected value of a random variable, such as medical expenditures, is the probability-weighted average of all possible values.) We estimate the expected value for each person based on a linear regression model. Following Farley's method, the expected value is calculated from a linear regression involving age, race/ethnicity, sex, income, perceived health status, disability days, and limitation of usual activity. The 25% of the sample with the highest expected values are assigned to the high-risk group. The remaining 75% are assigned to the low-risk group.

Having assigned people to risk groups and characterized catastrophic illnesses in the top percentile of expenditures, we use the insurance data from NMES to determine the expenses that would be covered in the relevant catastrophic scenario. For people with more than one plan, we assume the traditional industry procedure for coordinating benefits,

Table 1.—Catastrophic Illnesses for Low and High Risks: Average Expenditures per Person in the Top Percentile of Annual Expenditures, 1987*

Expenditure Scenario	Expenditure, \$
Total annual expenditure for low risks	25 000
Inpatient hospital	16 400
Inpatient surgical	3900
Inpatient medical	1100
Ambulatory physician visits	3000
Prescriptions	600
Dental care	100
Total annual expenditure for high risks	50 000
Inpatient hospital	36 000
Inpatient surgical	4100
Inpatient medical	2300
Ambulatory physician visits	7000
Prescriptions	500
Dental care	100

*Data from Agency for Health Care Policy and Research, derived from 1987 National Medical Expenditure Survey.

which has the effect of minimizing out-of-pocket costs. We then identify the people whose out-of-pocket expenses in the catastrophic-illness scenario would exceed 10% of annual family income.

Actuarial Value of Minimum Benefit Standards.—As part of the NMES data collection contract, actuarial values were assigned to all of the policies collected in the NMES by Actuarial Research Corporation (ARC). ARC's method expresses actuarial value in terms of the share of average total expenditures that a plan covers. The share can range from 0 to 1. A value of 0.70, for example, indicates that the plan pays an average of 70% of the total covered expenses of the enrolled population. In assigning actuarial values to the NMES insurance plans, ARC used the expenditure data from the survey to calculate claims paid by each plan on the assumption that it enrolled a representative cross section of the US population younger than 65 years.

The actuarial value of most of the coverage in the NMES sample fell in a range from 0.65 to 0.95. ARC estimated the actuarial value of the HSA benefit package at our request and concluded that the real actuarial value of the package in 1987 was 0.77. The parameters of the HSA and federal employee benefit packages are expressed in current (1994) dollars. To compare them in terms of real income protection with the policies collected in the 1987 NMES, we deflated the deductibles and stop-loss amounts by the consumer price index for all items. According to the Congressional Budget Office,⁷ the actuarial value of the federal employee plan is 8% less than the value of the HSA package. Consequently, we use a value of 0.71 as the actuarial value of the federal employee plan.

Specific Provisions of Minimum Benefit Standards.—Considering the specific provisions of the HSA and fed-

eral employee benefit packages, we identify people with policies lacking the following prescribed features: unlimited lifetime benefits; maximum out-of-pocket expenditures for covered services of \$1500 per individual and \$3000 per family; full coverage of well-child care; coverage of outpatient prescription drugs; and coverage of at least 30 days of inpatient mental health services and 30 outpatient visits. For these purposes, we categorize lifetime benefits of \$10 million or more as unlimited.

Projecting to 1994

We project the estimates from the 1987 survey to 1994, using procedures developed by the Agency for Health Care Policy and Research for its health care simulation model that adjust for population growth and changes in the demographic composition and insurance status of the population.⁸ These adjustments are accomplished by altering the survey weights that are used to project from the sample to the US population. To account for the growth of health maintenance organization (HMO) enrollment between 1987 and 1994, the 1994 weights are also adjusted to match the weighted proportion of HMO enrollees by firm size reported by KPMG-Peat Marwick from a 1993 national employer survey.⁹

RESULTS

The Number of Underinsured

If faced with a catastrophic illness, 18.9% of the privately insured younger than 65 years were underinsured in 1987 (Table 2). This estimate, based on out-of-pocket expenditures exceeding 10% of family income, is half again larger than Farley's comparable estimate for 1977 (12.6%). Some of the underinsured had unusually limited insurance policies that would cover relatively little of the cost of a catastrophic illness. Such policies often had payment schedules limiting the amount per day of hospital care or per physician visit, or severe restrictions on the number of covered hospital days or total hospital benefits. The rest of the underinsured held standard policies with typical cost-sharing provisions but nevertheless confronted a significant financial risk in relation to their incomes. In these instances, because the family's income was so low, standard cost-sharing requirements left open the risk of spending a large share of family income on an expensive illness.

When the adequacy of private insurance is judged against the actuarial value of the largest federal employee plan, the underinsured are a slightly smaller percentage of the population with private insurance (16.4%). Twice as many people

Table 2.—The Underinsured as a Percentage of the Privately Insured Population Younger than 65 Years in 1987 (N=154 599 000) and 1994 (N=156 691 000). According to Alternative Definitions*

Definition of Underinsured	Underinsured, %	
	1987	1994
Catastrophic illness		
Out-of-pocket expenditures >10% of family income	18.9	18.5
Actuarial value		
Federal employee standard	16.4	15.7
Health Security Act (HSA) standard	32.5	30.6
Lacks the following features of federal employee and HSA benefit packages		
Unlimited lifetime benefits	56.6	52.8
Out-of-pocket expenses limited to \$1500 per person	49.2	51.4
No cost sharing for well-child care	86.8	84.0
≥30 d of inpatient mental health benefits	16.9	17.1
≥30 outpatient mental health visits	30.8	34.1
Prescription drug coverage	12.9	13.4

*Data from Agency for Health Care Policy and Research, 1987 National Medical Expenditure Survey.

(32.5% of the privately insured) had coverage falling below the actuarial standard implied by President Clinton's HSA, although the actuarial value of the HSA benefit package is only 8% higher than the federal employee package. The large effect of such a small change in the benefit standard indicates that actuarial values of private insurance policies are tightly clustered in this range.

Much larger percentages of the privately insured in 1987 had policies that fell short of the specific benefit requirements in these reform proposals. More than half of the privately insured were covered by plans with limits on lifetime coverage. The plans of 49.2% failed to cap out-of-pocket expenses at \$1500 or less per person (\$3000 or less per family). Almost a third lacked coverage for 30 outpatient mental health visits. Full coverage of well-child visits was especially rare; 86.8% of the privately insured had plans with less than full coverage of well-child care. Even HMOs typically require a \$5 or \$10 co-payment for well-child visits, the same as for other ambulatory visits.

Projected changes between 1987 and 1994 in demographics, income distribution, and HMO market shares have relatively little effect on the estimated percentage of the privately insured with inadequate coverage in 1994, according to these various definitions. Specifically, a projected 18.5% are underinsured for catastrophic illness, and 15.7% have coverage with a lower actuarial value than the federal employee plan.

Characteristics Associated With the Likelihood of Being Underinsured

Although the standards based on coverage of catastrophic illness and the actuarial value of the federal employee plan coincidentally result in similar estimates of the number of underinsured in 1994, they single out different types

of people (Table 3). The definition that is based on actuarial value, which applies the same standard to everyone's insurance, suggests less variation in the adequacy of private insurance across population subgroups. Because the coverage of catastrophic illness is evaluated according to differences in individual circumstances (namely, family income and risk group), this definition of the underinsured suggests more variation across subgroups.

In particular, when the benefit standard is adjusted for income and a higher expected level of expenditure, much larger proportions of the sick and the poor are labeled as underinsured. The relatively few people below 125% of the poverty line who have private insurance are just as likely to meet the standard for actuarial value as any other income group. Nevertheless, because the cost sharing required even by a typical policy is large in relation to their income, 61.6% of people with private insurance below 125% of poverty are at significant financial risk in the event of a catastrophic illness. This is five times the percentage who are underinsured according to the actuarial standard and more than three times the national average for catastrophic illness.

The correlation of poor health with low income works to the particular disadvantage of the least healthy people with private insurance. Twenty-seven percent of the privately insured who are in poor health are below 200% of poverty, more than twice the rate for persons in excellent health (not shown). Seventy-one percent of people in poor health are in the high-risk group according to our classification (not shown), so our method judges their insurance against the higher level of catastrophic expenditure. As a consequence, while 19.4% of those in poor health are below the standard for actuarial value, 34.7% are underinsured for catastrophic illness. This

Table 3.—The Underinsured as a Percentage of the Privately Insured, by Population Characteristics, 1994*

Characteristics	No. of Privately Insured Younger Than 65 y, Thousands	Underinsured, %	
		Catastrophic Illness	Actuarial Value
Total†	156 691	18.5	15.7
Type of insurance			
Nongroup	15 733	40.7	23.9
Any group plan, No. of members			
1-25	16 792	24.3	24.0
26-100	15 984	21.8	14.2
101-500	23 058	17.7	11.3
501-5000	36 119	12.3	13.7
>5000	49 004	13.2	14.1
Age, y			
<19	45 303	18.3	16.9
19-24	11 277	23.4	13.3
25-34	32 239	19.1	15.4
35-54	51 306	14.9	15.4
55-64	16 567	25.8	15.1
Race			
Black	13 379	23.1	14.3
Hispanic	9 778	23.1	18.6
White	133 535	17.7	15.6
Sex			
Male	77 941	17.0	15.9
Female	78 750	20.0	15.4
Perceived health status			
Excellent	57 645	16.7	16.6
Good	70 516	18.6	14.5
Fair	12 859	22.4	18.2
Poor	14 77	34.7	19.4
Family income, % of poverty level			
≤125	11 316	61.6	12.3
126-200	15 579	31.7	17.1
201-400	61 324	17.9	16.8
>400	67 774	8.0	14.8

*Data from Agency for Health Care Policy and Research, 1987 National Medical Expenditure Survey.

†Total includes persons with missing health status not shown in table.

is almost twice the national average. The catastrophic coverage of the other health status groups is better and varies little across groups.

Systematic differences in income and risk group also explain the high percentages underinsured for catastrophic illness among those aged 19 to 24 years and 55 to 64 years, nonwhites, and those with insurance purchased directly from an insurer and not through a group. Nongroup enrollees are disproportionately retirees in the age group nearing 65, circumstances that are associated with the risk of more expensive illnesses and lower income. Young adults are typically low risks, but they have lower average incomes compared with older, more experienced workers.

Regardless of definition, the privately insured who are enrolled in nongroup plans or through small groups (with 25 or fewer members) are more likely to be underinsured. Of people with nongroup insurance plans, 40.7% are underinsured when judged by a catastrophic illness; 23.9% are underinsured when judged by actuarial value. Approximately 24%

of people enrolled in very small groups are underinsured by either definition, about twice the rate for very large groups.

Combined Estimates of the Uninsured and Underinsured

Adding the uninsured to the underinsured, a total of about one third of the US population younger than 65 years is inadequately insured in any given year (Figure 1): 13.1% are uninsured all year; 10.1% are uninsured part of the year; and, using the income-related standard for catastrophic illness, an additional 12.2% are underinsured. Using the federal employee standard for actuarial value, 10.3% are underinsured. Anyone who was uninsured for part of the year and underinsured for part of the year is counted with the part-year uninsured in these figures. Altogether, about 75 million to 79 million people were inadequately insured in 1994. These estimates exclude anyone who was covered all year by public insurance, regardless of the adequacy of their private insurance.

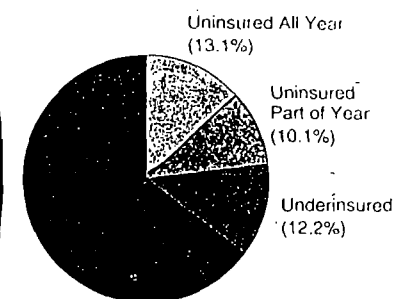


Figure 1.—The population younger than 65 years with inadequate insurance coverage.

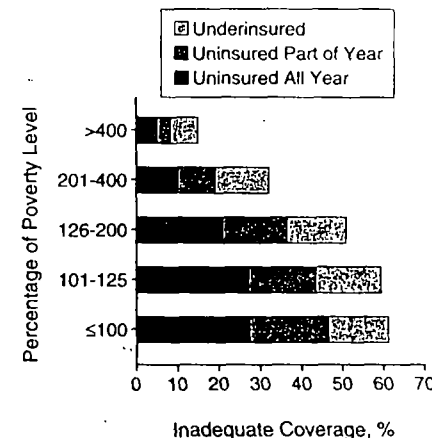


Figure 2.—Inadequate insurance coverage by percentage of poverty.

As shown in Figure 2, the likelihood of being uninsured is much greater for people below 200% of the poverty line than for those above 200% of poverty. Furthermore, the lack of insurance in low-income families is exacerbated by the inadequacy of standard limits on cost sharing for privately insured families with relatively little income. The income-related measure of catastrophic-illness coverage emphasizes the significance of this problem. Counting the uninsured (46.1%) and the underinsured by this definition (15.8%), more than three fifths of the poor are inadequately insured. The likelihood of being uninsured or underinsured increases from 15.1% above 400% of poverty to 61.9% below the poverty line.

COMMENT

Our projections for 1994 indicate that 29 million people with private insurance are underinsured, risking out-of-pocket expenditures in excess of 10% of family income in the event of a catastrophic illness. This figure is nearly half again larger than the figure of 20 million people

Table 4 — Trends in the Percentage of the Privately Insured Who Are Underinsured, by Selected Population Characteristics, 1977 and 1994*

Characteristics	Underinsured for Catastrophic Illness, %	
	1977	1994
Total	12.6	18.5
Type of insurance		
Nongroup	51.6	40.7
Any group	8.6	16.0
Age, y		
<19	9.1	18.3
19-24	17.5	23.4
25-34	10.8	19.1
35-54	10.9	14.9
55-64	25.0	25.8
Perceived health status		
Excellent	9.6	16.7
Good	13.3	18.6
Fair	22.9	22.4
Poor	31.2	34.7
Family income, % of poverty level		
≤125	56.2	61.6
126-200	21.9	31.7
201-400	9.8	17.9
>400	5.1	8.0

*The 1994 data are from the Agency for Health Care Policy and Research, 1987 National Medical Expenditure Survey; and the 1977 data are from Farley.⁴ (Table 3)

commonly cited in discussions of health system reform. The smaller, incorrect estimate is the result of projecting from the adequacy of catastrophic coverage in the late 1970s to the situation today.

From comparable estimates of surveys conducted in 1977 and 1987, we find that the number of people with adequate protection against large medical bills declined significantly during the decade. Our measure of adequacy takes insurance coverage, income, and the cost of a catastrophic illness into account, so the explanation for the increasing number of underinsured must lie with the trends in these three areas. In fact, catastrophic insurance coverage improved between 1977 and 1987 as a result of the increased popularity of HMOs (which offer generally comprehensive benefits)

and the marked increase in insurance policies with limits on out-of-pocket expenses.¹⁰ At the same time, personal income per capita in the United States increased by a factor of 2.2.^{11,12} However, neither kept pace with the costs experienced by people in the top 1% of the health expenditure distribution, and that seems to explain the increasing risk of large out-of-pocket expenditures that we observe.

Specifically, in 1977 a high-risk person faced a 1-in-100 chance of medical bills totaling about \$14 000.^{10(p179)} By 1987, as shown in Table 1, that risk had increased to \$50 000. There was a similar, approximately fourfold increase in the level of catastrophic expenditure for low risks as well. By contrast, average health care expenditures per person increased by a factor of three between 1977 and 1987.^{13,14} Thus, the growth in expenditures associated with catastrophic illnesses was greater than either the growth in average expenditures or the growth in family incomes.¹⁵

A comparison of the survey estimates from 1977 and our projections for 1994 indicates that the deterioration of catastrophic coverage is more evident in the group market than the nongroup market (Table 4), perhaps because coverage in the group market was better to begin with. The adequacy of nongroup coverage seems to have improved during the decade, as the percentage of nongroup enrollees with inadequate coverage for catastrophic illness decreased from 51.6% in 1977 to 40.7% in 1994. At the same time, however, the number of group enrollees with inadequate catastrophic coverage nearly doubled from 8.6% in 1977 to 16.0% in 1994, as expenditure growth eroded their catastrophic protection. The increase in the underinsured was also proportionately greater among children, healthier people, and

higher-income families where, as among group enrollees, the percentage underinsured in 1977 was relatively low.

The current direction of health reform efforts seems to be the restructuring of the small group and nongroup insurance markets. Our findings support this emphasis, since those without group coverage and those in groups with 25 or fewer members are underinsured at a much higher rate than those in larger groups. However, because most people obtain their coverage through larger groups, roughly two thirds of the underinsured are in groups with more than 25 members. And, while the catastrophic protection of nongroup enrollees has improved over time, the catastrophic protection of group plans has eroded.

Low-income families also warrant special consideration in efforts to reform and expand private health insurance markets. Efforts to draw the uninsured into private insurance markets must recognize that many of the uninsured are in low-income families. When we measure the risk of high out-of-pocket expenditures against family income, we find that traditional health insurance policies with standard cost-sharing limits do not provide adequate protection for low-income families. If reforms are designed around benefit packages that are better suited to middle-income and upper-income families, they will offer little more to the low-income uninsured than a place among the underinsured.

This research was undertaken while Dr Short was an employee of the Center for Intramural Research, Agency for Health Care Policy and Research, US Department of Health and Human Services. RAND supported the revision of the manuscript.

Kathy McMillan of Social and Scientific Systems Inc in Bethesda, Md, provided programming assistance. The actuarial values used in the analysis were calculated by Actuarial Research Corporation, Annandale, Va.

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