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Health Insurance Expansions and the Content of Coverage: Is Something Better Than Nothing?

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Executive Summary

Prior research on health insurance expansions has ignored the content of coverage, yet the nature of coverage offered is likely to affect both take-up by the uninsured and the public policy–relevant consequences of the expansion. This paper uses the Medical Expenditure Panel Survey, the Survey of Program Dynamics, and the Rand Health Insurance Experiment to show that uninsured people are likely to value certain types of coverage more than others. Using a simulation model of the value of coverage expansions, I show that front-end coverage with a low-benefit maximum is likely to be perceived as more valuable than catastrophic coverage by low-income uninsured people. Some high-deductible coverage may make uninsured people subjectively worse off.

I. Introduction

Economic research on health insurance has focused on three questions. One line of research examines the extent of moral hazard in health insurance and assesses the effect of health insurance on service utilization. Research in this area takes careful account of the parameters of health insurance contracts. For example, the RAND experiment evaluated the effects of varying co-insurance and deductible levels on health service utilization (Newhouse 1993). A second line of research measures the extent of adverse selection among health insurance offerings for a given population This work typically incorporates some measures of the generosity of insurance coverage, such as the actuarial value of coverage or the nature of coverage. For example, Price and Mays (1985)

show that, within the Federal Employees Health Benefits Program, purchasers of standard option coverage are, on average, healthier than those who purchase high-option coverage. Similarly, Brown et al. (1993) show that Medicare beneficiaries who join health maintenance organizations (HMOs) are, on average, healthier than those who remain in the traditional program. Finally, a third area of research assesses the factors that affect the decision to purchase health insurance at all. Research in this area usually treats coverage as a categorical variable—at any moment in time, people hold either public or private insurance or they are uninsured. For example, Gruber and Poterba (1994) show that a change in the tax treatment of health insurance purchases by the self-employed led to an increase in health insurance coverage in this group.

Following this last literature, estimates of the costs and consequences of proposals to expand health insurance coverage generally treat insurance as a categorical variable. This categorical treatment is a natural corollary of the way that individual insurance coverage is measured in almost every available national survey. The decision to treat insurance as categorical is also consistent with an individual health insurance choice market where consumers select between no coverage and the optimal level of health insurance. As Pauly and Herring (2002) indicate, however, this convention may not be appropriate in assessing group coverage. Finkelstein (2002) shows that this assumption is also not appropriate in the Medigap coverage market, where the content of coverage is regulated. In this chapter, I show that the categorical treatment of insurance coverage may also be inappropriate for assessing incremental policies that aim to expand coverage further.

The categorical treatment of health insurance fails to consider two critical elements in voluntary, incremental health insurance expansion proposals. First, in a voluntary expansion, people must take up the coverage that is offered to them. Basic microeconomic theory says that what people like best is money, which they can spend according to their own preferences. It follows that if health insurance, not money, is to be redistributed, the more flexible the available benefits, the higher the participation rate will be (see Finkelstein 2002, for example). If benefit design is specified in some way, however, the specifics of that design are likely to affect participation.

Second, categorical treatment does not take into account the rationale for expanding health insurance coverage. There are three plausible reasons for expanding health care coverage: "Lacking insurance is a

problem for individuals because too often, no health insurance means health care foregone, small warning signs ignored, and minor illnesses allowed to become costly crises. It's a problem for families because unpaid medical bills are a leading cause of personal bankruptcy. And it's a problem for the nation because uncompensated care is an unfair burden on doctors, hospitals, and taxpayers."[1] That is, health insurance may (a) increase access to health care services, (b) provide people with financial protection in lieu of bankruptcy, and (c) improve the efficiency with which existing care is delivered. The extent to which a given expansion accomplishes these goals will depend critically on the nature of the coverage that people obtain. Beyond these goals, there may be other public policy concerns in relation to the content of coverage. For example, it may be desirable that new insurance expansions mesh well with existing health insurance programs. It may also be desirable that new expansions not encourage those who already hold coverage to switch. Categorical treatment of health insurance in modeling coverage expansions obscures the tensions between these two elements. The types of coverage that uninsured people would most likely prefer and would choose if given perfectly flexible benefit choice need not correspond to these public policy goals.

This paper has five parts. The first part describes how the decision to purchase health insurance coverage is treated in existing models of coverage expansions and illustrates the range of possible health insurance packages that might be available under a coverage expansion. The second part provides theoretical and empirical evidence showing that the content of health insurance coverage is likely to affect the fraction of uninsured people who take up coverage that is offered. The third part provides empirical evidence that different types of coverage will have distinct public policy consequences. The fourth section of the paper illustrates the likely consequences of two different health insurance packages. The final section provides a conclusion.

II. The Treatment of Health Insurance Purchasing in Existing Models

There are three types of models used to simulate the effects of expanding insurance coverage. The first type of model applies price elasticities to data on current prices and current insurance patterns (Gruber 2000, Baumgardner 1998, Custer and Wildsmith 1999). The price elasticities employed in this approach come from the existing literature.

Three recent studies examine the price elasticity of health insurance purchase in the context of three different markets (Marquis and Long 1999, Gruber and Poterba 1994, Royalty 2000). Marquis and Long (1999) rely on variation in the price of health insurance in the nongroup market to identify the price elasticity of demand for nongroup coverage. Gruber and Poterba (1994) use a natural experiment, the extension of a new tax exemption of 25 percent of the cost of coverage for the self-employed, to measure the price elasticity of demand for individual coverage. Royalty (2000) take advantage of naturally occurring variation in the tax price of health insurance across states to measure the price elasticity of demand for private coverage. All three of these studies define insurance, within the market they are examining, as a binary (yes/no) variable.

A second approach applies estimates of the rate at which people take up coverage to groups of individuals defined by particular characteristics such as income and family size. Some of these estimates incorporate the price of coverage as a grouping category (for example, see Holahan, Uccello, and Feder 1999). This approach has primarily been used for Medicaid take-up calculations. These models use data from large national surveys, such as the Current Population Survey, that define health insurance categorically. These models, too, examine a binary decision (whether or not to take up Medicaid coverage).

The third approach compares new health insurance options with estimated reservation prices (Pauly and Herring 2001). A reservation price is the highest price at which a given individual would purchase health insurance. The most common implementation of this method utilizes discrete choice model estimation. This method again relies on standard national data sets that include only categorical measures of insurance coverage. Another less frequently used implementation incorporates more structural methods based on utility functions (Zabinski et al. 1999, Pauly and Herring 2001). In Pauly and Herring's (2001) implementation, the reservation price of health insurance coverage is estimated using information on actual health insurance expenditures and the availability of uncompensated care. Even in this model, though, health insurance coverage itself is treated only as a binary variable.

When any of these models are implemented, researchers must compare the price of coverage that is currently available to people with the price of coverage that would be available after a reform. When doing so, researchers must explicitly define coverage in any of these models.

In most models, coverage is defined as any insurance package of a specified actuarial value.

Health insurance—even insurance of a given actuarial value—comes in many flavors. Expansion of private health insurance may be expected to lead to even more coverage innovation, with a still wider range of products available, including products that cater to the particular demands of the newly covered consumers. Coverage expansions may also take the form of Medicaid eligibility extensions. Medicaid offers a particular type of insurance coverage that is different from coverage offered in the private, nongroup market. In practice, modelers generally examine take-up of either a Medicaid coverage expansion or a tax credit for the purchase of private, nongroup coverage. They do not attempt to reconcile take-up propensities explicitly for these two alternative policies, making it difficult to compare these approaches.

Health insurance products may vary in overall generosity (actuarial value) and in benefit design within a given actuarial value category. Table 3.1 focuses on models that differ only in benefit design. Even within a given price range, under identical underwriting conditions, a wide range of packages exist. Table 3.1 presents benefit packages that

Table 3.1
Health insurance packages with similar premiums

	High deductible[a]	Front-end loaded[b]	Bare-bones benefits[a]	Medicaid providers[c]
Premium	$1,450	$1,400	$1,450	$1,876
Deductible	$3,000	$0	$25	0
Maximum dollar expenditure	$3,750	—	$3,750	—
Copayment	20%	$10, 20% inpatient	20%	0
Benefits	Hospital, medical, mental health, prescriptions	Hospital, medical, prescriptions	Hospital, medical	Hospital, medical, mental health, prescriptions, nursing home
Maximum benefit	$1,000,000	$12,000	$1,000,000	Uncapped
Provider panel	Unlimited	Unlimited	Unlimited	Very limited

[a]Glied, Callahan, Mays, and Edwards 2002.
[b]Estimates provided by Actuarial Research Consulting 2002.
[c]Based on average Medicaid per-capita payment of $1,876 per adult served in 1998 (http://hcfa.gov/stats/2Tchartbk.pdf).

are all estimated to cost about $1,450 after loading in the individual insurance market for an average uninsured purchaser.

These packages provide very different types of protection. The high deductible policy offers catastrophic protection but encourages little new service use. The front-end package prepays most routine health service costs but provides very little catastrophic protection. The bare-bones package offers both substantial front-end coverage and cata-strophic protection—as long as the insured person does not need either prescriptions or mental health coverage. The Medicaid package pro-vides very complete, generous coverage but relies on a highly restricted set of providers.

A further distinction between private nongroup, private group and public coverage is in the timing of available coverage. Two aspects of timing may be important: the timing of coverage for routine care and the timing of coverage for serious illness. An application for coverage in the nongroup market can be made at any time. Coverage for routine care in this market usually begins 4 to 8 weeks after an application is submitted, taking into account the time for underwriter approval of the application—a process that may take 2 to 6 weeks.[2] Coverage in the nongroup market generally excludes pre-existing conditions, some-times permanently, so coverage for serious illness must be purchased before the illness occurs. In the employer market, people can sign up for coverage only during predefined enrollment periods. Coverage generally begins within a month of enrollment. In this market, there are often temporary limits on coverage for pre-existing conditions (for those who were previously uninsured). Finally, Medicaid program rules require that a Medicaid card, providing access to coverage for routine care, must be extended within forty-five days of receipt of a completed application based on nondisability related eligibility and 90 days for disability-related eligibility (42 C.F.R. § 435.912). Coverage for serious illness, however, is much easier to obtain through Medicaid. Medicaid (and State Children's Health Insurance Program [S-CHIP]) ignores pre-existing conditions. For those with a serious illness, cover-age under the Medicaid program can extend three months retroac-tively, in principle. Patients can be enrolled in hospital by the provider institution after they become ill. These provisions imply that all those eligible for Medicaid implicitly have "conditional" health insurance coverage for serious illness, though not for routine care (Cutler and Gruber 1996).

Differences in content and timing of available health care benefits mean that different packages are likely to attract different groups of consumers. These features of the packages also have different public policy implications.

III.   What Uninsured People Want

One of the disappointing findings of the literature on health insurance expansions is the limited number of people who might be expected to participate in a program. The literature on the Medicaid expansions of the late 1980s and early 1990s suggests that the program, which offered free insurance coverage to low-income children, enticed less than two-thirds of uninsured, eligible children to participate. The SCHIP expansions since the mid-1990s offer free or very low-cost coverage to near-poor children. The SCHIP expansions typically require far fewer administrative hurdles than Medicaid and generally offer enrollees a broader provider panel. Extensive outreach efforts have been made to locate and enroll eligibles. Yet even here, estimates suggest that 26 percent of uninsured children are eligible for SCHIP but have not enrolled (Kenney and Haley 2001).

Estimates of responsiveness to tax credits that would substantially reduce the price of insurance for the uninsured similarly suggest that very large declines in price would be needed to capture a substantial share of the population. Estimates suggest that even a generous tax credit that covered the full average cost of health insurance would reduce the number of uninsured by only about 30 percent (Gruber and Levitt 2000).

A large, mainly qualitative literature attempts to explain why people who are eligible for low-cost coverage do not sign up (Kenney and Haley 2001). In a recent survey of families in which eligible children were not enrolled in Medicaid/SCHIP, Kenney and Haley (2001) found that among the 88 percent of families who were aware of the programs, the most common reason recorded for not inquiring about enrollment (40 percent) was that the families did not need or want the coverage that was available.[3]

A basic assumption behind the categorical treatment of health insurance coverage is that people who choose to purchase insurance can, in a competitive market, with full information, select the package of coverage that is best for them. Coverage has multiple dimensions and

purchasers may choose combinations of these dimensions of coverage. Uninsured people, however, have chosen not to purchase *any* of the existing packages of coverage available. They are at a corner solution along every dimension of purchased coverage. Suppose this group is given a voucher that can be used only toward the purchase of health insurance. There is no information in their current choice of coverage that could guide us in guessing what combination of coverage dimensions they would choose. In particular, there is no a priori reason to expect them to select the same package that comparable insured people are now purchasing.

Financing of Care

Uninsured people use less care than insured people do. Despite their lack of insurance coverage, however, uninsured people do not pay for all the care they do receive. The ratio of expenditures by the uninsured compared to the privately insured declined very slightly in 1996 relative to 1987 (Taylor, Cohen, and Machlin 2001). The amount and share paid by uninsured people themselves, however, has also fallen. The remainder is paid by other sources, including uncompensated care.[4]

Some evidence suggests that the availability of uncompensated care, in the form of public hospitals, may affect take-up of coverage, although the effects are relatively small (Rask and Rask 2000). Some prior research on take-up of coverage by the uninsured has taken this type of effect into account (Pauly and Herring 2001). Pauly and Herring estimate the level of uncompensated care that might be available to an individual and the value that people with different characteristics might place on using such care to compute the reservation price of health insurance. This is an important step forward.

Pauly and Herring (2001) and Rask and Rask (2000), however, treat all uncompensated care as equivalent. In fact, patterns of uncompensated care may vary by service type and level of spending. For example, nonprofit hospitals may provide low-cost or free services as a component of charity care. Outpatient physician and dental services, and prescription drugs may be more difficult to obtain at discounted cost.

We use the 1996 Medical Expenditure Panel Survey (MEPS) to examine patterns of financial exposure for different types of care. We examine the level and share of expenditures within service type that are paid by people who are uninsured all year. We compare these shares

Table 3.2
Expenses by poverty and insurance

	N	Average total expenditure	Percentage with expense > than	
			$1,000	$2,000
<200% FPL				
Uninsured	1,874	$465	10.8	5.6
Medicaid	1,691	$1,713	26.1	17
Private group	1,585	$1,422	27.1	15.7
Private nongroup	132	$2,726	33.1	22.5
>200% FPL				
Uninsured	1,049	$655	11.7	5.5
Private group	8,226	$1,783	32.5	18.2
Private nongroup	355	$1,407	30.6	16.4

Source: MEPS, 1996.

Table 3.3
Out-of-pocket by poverty and insurance

	Total out-of-pocket (%)	Percentage with total out-of-pocket > than	
		$1,000	$2,000
<200% FPL			
Uninsured	76.5	6	2.3
Medicaid	8.6	1.7	0.4
Private group	36.1	6.1	1.4
Private nongroup	51.1	15.3	5.2
>200% FPL			
Uninsured	77.6	11.7	5.5
Private group	35.1	7.8	2.7
Private nongroup	57.9	14.5	6.8

Source: MEPS, 1996.
Introduction to MEPS Data & Publications June 2002. Agency for Healthcare Research and Quality, Rockville, MD.
http://www.meps.ahrq.gov/data_public.htm.

for the low-income (<200 percent FPL) and higher-income uninsured. For completeness, we also report similar figures for people with non-group coverage, employer-sponsored private coverage, and Medicaid (<200 percent FPL only). The results are in tables 3.2 through 3.5.

As might be expected, people without health care coverage use substantially fewer services than do those with coverage. Among those with group coverage, about 16 percent exceeded $2,000 in annual

Table 3.4
Out-of-pocket by poverty, insurance, and service type among those with expense

	Hospital	Office-Based	Prescription
<200% FPL			
Uninsured	46.6	74.6	91.6
Medicaid	1.8	4	21.1
Private group	15.8	34.9	51.1
Private nongroup	19.8	52.3	66.6
>200% FPL			
Uninsured	42.5	73.2	87.9
Private group	15.7	32.3	49.7
Private nongroup	45.6	53.3	61.1

Source: MEPS, 1996.

health care spending. The figure was comparable among those with nongroup coverage. By contrast, fewer than 6 percent of the uninsured exceeded $2,000 in annual health care spending. In addition, within that spending, out-of-pocket financial exposure differed substantially among the groups.

In the MEPS sample, only 47 percent of uninsured people with incomes below 200 percent FPL and who had total spending over $2,000 spent as much as half that amount out-of-pocket. Low-income uninsured people paid 92 percent of their drug bills but only 47 percent of their hospital bills. The results were not much different for higher-income uninsured people. On average, uninsured people within a given income range were less likely to spend more than $1,000 (or more than $2,000) out-of-pocket than were their counterparts with nongroup coverage.

Out-of-pocket shares of spending tended to decline with the level of spending for all groups. Uninsured low-income people paid 86 percent of the first $100 in spending out-of-pocket, but only two-thirds of spending between $500 and $2,000 and 43 percent of spending over $2,000.

There is substantial variation around the share of spending by uninsured people. While the average low-income uninsured person with expenses over $500 paid only 65 percent of health care bills out-of-pocket, 45 percent paid more than 90 percent of expenses out-of-pocket and one-quarter paid less than one-third of their costs out-of-pocket.

Finally, some low-income uninsured people became covered by Medicaid over the course of a year. For this group, overall spending was much higher (12 percent had spending over $2,000) but the out-of-pocket share of spending was much lower.

Table 3.5
Out-of-pocket by poverty, insurance, and spending level

	$0–<$100	$100–<$500	$500–<$1,000	$1,000–<$2,000	>$2,000
<200% FPL					
Uninsured	85.7	79.7	63.7	66.1	43
Medicaid	9	9.6	9.7	11	4.2
Private group	47.4	38.6	40	23.8	17.7
Private nongroup	46.9	65.6	76.5	37.2	21.9
>200% FPL					
Uninsured	84.8	80.4	75.3	72.8	35.4
Private group	42.6	38.7	35.9	29.6	21.7
Private nongroup	69.2	59.9	66.1	35	41.6

Source: MEPS, 1996.

These patterns of spending suggest that uninsured people have some de facto insurance coverage available to them through the uncompensated care system and Medicaid conditional coverage. This "coverage," however, takes particular forms. Uninsured people pay almost all the costs of up-front care, but less of the cost of high-end care. From the perspective of out-of-pocket medical spending, the existing structure of uncompensated care behaves like a high-deductible insurance policy. In addition, providers may not offer as much costly care to those who cannot pay as they would to someone with a high-deductible insurance policy (Doyle 2001).

This pattern of de facto coverage has implications for the take-up of actual coverage. Coverage with very high deductibles would, in effect, mimic the nature of coverage that the uninsured already have. Thus, such coverage is unlikely to be attractive to them. By contrast, coverage that offers front-end protection is likely to be attractive to low-income uninsured people because it provides them with services that they would otherwise have to pay for entirely out-of-pocket. The desirability of bare-bones coverage would depend on the extent to which services are not available through alternative financing channels.

IV.   What We Want the Uninsured to Have

Economists have always had difficulty analyzing in-kind transfer programs (Tobin 1970). Health insurance is no exception. Expansions of health insurance coverage intend to do more than simply make the uninsured better off. That goal could be accomplished more readily by simply redistributing income. Although affordability is always the leading reason cited by the uninsured for not buying coverage, income transfers alone are unlikely to lead to a substantial increase in the level of coverage.

The limitations of income transfers are apparent in analyses of the effects of the Earned Income Tax Credit (EITC) on health insurance purchase. Very few recipients of the EITC report that they used their refund checks to purchase nongroup health insurance coverage (Smeeding 2002). Some EITC recipients did respond to the combination of income transfers and high marginal tax rates generated by the program by taking up employer-sponsored health insurance (Baughman 2001). Baughman estimates, however, that less than 4 percent of EITC spending went toward the purchase of health insurance coverage.

Health insurance expansions, then, intend to encourage uninsured people to behave in ways that do not necessarily maximize their subjective utility but rather address specific public-policy objectives. Three such objectives have been suggested: increasing health service use, providing financial asset protection in lieu of bankruptcy, and reducing uncompensated care.

I will focus below on the first two of these goals, which are in tension.[5] The theory of insurance, which underlies the second goal, suggests that optimal coverage balances the benefits of financial protection against the costs of insurance-induced service use (moral hazard). Thus, optimal financial protection coverage is coverage that does not induce *any* new service use, except to the extent that is consistent with income transfers to people when they get sick (Nyman 2001). By contrast, the first goal aims to generate insurance-induced service use. Economists have no specialized knowledge with which to decide between these goals.

Increasing Health Service Use

There are many kinds of health services. Health services vary in their effects on health, in their effects on future service use, and in their perceived benefits to the person being treated. Presumably, even those who would like health insurance coverage expansions to increase service use do not desire indiscriminate use of health services. The goal of health coverage expansion is to generate more *beneficial* service use.

It is difficult to target use to appropriate care seeking through benefit design. Health insurance is only one element in the process generating care seeking and receipt. For example, in the RAND experiment, researchers found that one of the few health conditions that showed improvement under more generous coverage was hypertension control. This finding suggests that an ideal insurance package would offer low-cost coverage for hypertension control. On further examination of the data, however, RAND researchers found that the effect of insurance was primarily on the initial identification of hypertension. Furthermore, this identification typically occurred during a visit for some other reason. Targeting hypertension alone would likely have been ineffective in improving outcomes (Newhouse 1993).

The RAND experiment also examined the effect of cost sharing on the use of services where medical care is likely to offer some benefit

and in cases where no such benefit is expected. Researchers found that cost sharing reduced the use of services equally in cases where medical care might do good and in cases where medical care was unlikely to prove effective. To the extent that people, and/or their physicians, do not correctly assess the potential benefits of a visit for a particular symptom, service use is likely to diverge from the optimum. In sum, it appears difficult to design coverage so that it induces only beneficial service use.

The RAND experiment showed that sensitivity to cost-sharing is related to income. Low-income people had lower baseline rates of service use. Furthermore, among those with lower incomes, use of services was relatively lower under the cost-sharing plans than it was among those with higher incomes (Lohr et al. 1986). This result occurred despite the fact that the out-of-pocket maximums in the RAND experiment were income-related. Thus, lower-income people faced less total out-of-pocket exposure than did higher-income groups. Service use among lower-income people was reduced both for conditions that benefit from medical treatment and for those that do not, and was reduced more for children than for adults (Lohr et al. 1986). The RAND experiment also showed that the most direct effect of cost-sharing is on initial care-seeking behavior. Once people had decided to go to the doctor, the consequent pattern of care was less strongly affected by cost-sharing (Newhouse 1993).

The RAND experiment suggested that cost-sharing for low-income people has different effects than for higher-income people, but the results do not directly indicate how optimal coverage would differ for the two groups. One possible goal would be to combine efficiency in coverage design with equity in health service access. This goal would imply identifying optimal coverage (balancing moral hazard and risk protection) for nonsubsidized purchasers and designing a coverage package for expansions that would generate the same level of health *service use* among subsidized purchasers.

Estimates based on the RAND experiment suggest that optimal coverage for people with average income would have about 50 percent cost sharing and no stop loss (Manning and Marquis 1996). Table 3.6 uses the RAND data to indicate patterns of physician visit use by cost-sharing arrangement for high- and low-income people. I also report estimates on medical visits from the MEPS. The MEPS data are quite consistent with the RAND results for the poor and near-poor populations. Combining the information from Manning and Marquis and the

Table 3.6
Asset limits and exemptions in Medicaid and bankruptcy

State	Medicaid asset limit (parents)	Bankruptcy asset exemptions
Alabama	$2,000	$8,000[c]
Alaska	$1,000	$62,000[d]
Arizona	$2,000	$104,500
Arkansas	$1,000	$24,200
California	$3,150	$56,900[c e]
Colorado	$2,000	$34,300[d]
Connecticut	$3,000	$77,500[c d]
Delaware	None	$5,500[d]
District of Columbia (Washington, D.C.)	None	$1,050[d]
Florida	$2,000	Unlimited homestead, $2,000 other[d]
Georgia	$1,000	$8,500[d]
Hawaii	$3,250	$22,000[c d]
Idaho	$1,000	$56,250[d]
Illinois	$3,050	$10,700
Indiana	$1,000	$11,600
Iowa	$5,000[a]	Unlimited homestead, $10,000 other[d]
Kansas	$2,000	Unlimited homestead[c d e]
Kentucky	$1,000	$16,500[d]
Louisiana	$1,000	$15,000[c d]
Maine	$2,000	$15,400[c d e]
Maryland	$2,000	$6,000[d]
Massachusetts	None	$105,200[d e]
Michigan	$3,000	$4,500[c d]
Minnesota	$6,200	$206,500[c d e]
Mississippi	None	$85,000, vehicles, cash[c d]
Missouri	None	$10,500[d]
Montana	$3,000	$65,700[d]
Nebraska	$6,000	$11,500[d]
Nevada	$2,000	$229,500[e]
New Hampshire	$2,000[a]	$38,900
New Jersey	$2,000	$2,000[d]
New Mexico	$3,500	$37,000[d]
New York	$3,000	$12,400[d]
North Carolina	$3,000	$15,000[d]
North Dakota	$6,025	$286,200
Ohio	None	$7,900[d]
Oklahoma	None	Unlimited homestead[c d]

Table 3.6
(continued)

State	Medicaid asset limit (parents)	Bankruptcy asset exemptions
Oregon	$10,000[b]	$42,000[d]
Pennsylvania	None	$300[d]
Rhode Island	None	$1,300[d]
South Carolina	$2,500	$9,200[d]
South Dakota	$2,000	Unlimited homestead, $4,200 other property
Tennessee	$2,000	$9,000[d]
Texas	$2,000	Unlimited homestead, $60,000 other property[d]
Utah	$3,025	$11,000[c d]
Vermont	$2,000	$47,400
Virginia	$1,000	$35,500[d e f]
Washington	$3,000[a]	$37,700[d]
West Virginia	$1,000	$6,600[d]
Wisconsin	$1,000	$47,200[d]
Wyoming	$2,500	$15,000[d]

Source: Kaiser Commission on Medicaid and the Uninsured, April 2001 and Debtcontrol
.com (http://www.debtcontrol.com/EXEMPTI.htm).
[a] Limit for recipients, applicant limit is lower.
[b] Limit for Job Opportunities and Basic Skills Training program applicants, Aid to Dependent Children limit is lower.
[c] Household goods exemption.
[d] Additional exemptions for retirement accounts.
[e] Disabled and elderly persons receive additional exemptions.
[f] Extra exemptions per dependent.
Note: In many states, public employees and teachers have special pension exemptions
from bankruptcy not listed here.

information in table 3.7 suggests that, if the policy goal is equity in
health service access, initial cost-sharing should be between 0 and 25
percent.

In the RAND experiment, everyone had complete coverage beyond
a deductible. By contrast, while uninsured people may receive some
uncompensated care, there is no reason to believe that they have full
coverage for catastrophic illnesses. Several studies show that patients
who are uninsured, or who hold Medicaid as their primary source of
coverage, lack access to technologically advanced care, suggesting that
the extent and nature of coverage also matters for high-cost care (see,
for example, Hadley, Steinberg, and Feder 1991; Glied 2002). Doyle
(2001) finds that uninsured motorists receive about 20 percent less care

Table 3.7
Cost-sharing and service use: Percentage with a physician visit

	RAND plans—cost-sharing (%)				MEPS		
	95	50	25	0	Uninsured	Medicaid	Private
All	65	77[a]	77	86[a]	39	68[c]	71[c]
Not poor	72	82[a]	83	89[a]	41	63[c]	72[c]
Poor and near-poor	51	59	61[b]	80[a]	38	68[c]	63[c]
Near-poor	50	62[a]	64	80[a]	40	63[c]	63[c]
Poor	54	50	52	79[a]	35	69[c]	63[c]

Source: RAND HIE, MEPS.
MEPS:
  Poor < 100% FPL.
  Near-poor 100–200% FPL.
  Not poor > 200% FPL.
RAND HIE (third year of study only):
  Near-poor—bottom 30% of family size adjusted income distribution.
  Poor—income < one-half near poor threshold.
[a] The difference is significant compared to preceding category (p < .05).
[b] The difference is statistically significant compared to category two to the left (p < .05).
[c] The difference is statistically significant compared to uninsured (p < .05).

than do those with coverage and are more likely to die as a consequence of their injuries. To the extent that the goal of health insurance expansions is to increase health service use, these findings suggest that expansions must also consider the nature of the catastrophic protection provided.

Protection Against Bankruptcy

A second reason that we might want to provide people with health insurance is to reduce the extent of personal bankruptcy. Many people who declare bankruptcy report medical debts (Jacoby, Sullivan, and Warren 2001). Personal bankruptcy legislation provides all Americans with an implicit system of wealth insurance (Rea 1984; Wang and White 2000). Since unanticipated adverse events can occur, people would prefer to buy wealth coverage, but such coverage is unlikely to be provided by the private market (Wang and White 2000). The existence of a set of bankruptcy rules—a public wealth insurance system—is thus beneficial to risk-averse consumers. Bankruptcy, however, provides this insurance at a price. Consumers pay significantly higher interest rates as the generosity of asset protection in bankruptcy increases (Gropp, Scholz, and White 1997). Since the probability of an adverse event is unlikely to be correlated with the generosity of asset protection under a state's bankruptcy laws, this increase in interest rates suggests that bankruptcy can induce substantial moral hazard.

One type of adverse event that may trigger bankruptcy is an unanticipated accident or illness. Properly designed health insurance may provide more efficient protection against the financial consequences of such unanticipated medical events than general bankruptcy protection does. If so, subsidizing health insurance coverage for low-income adults could improve social welfare. If the goal of coverage is to improve the efficiency of wealth protection, insurance benefits provided under expansions should be designed to *minimize* increases in service use.

Different types of coverage offer different levels of protection against bankruptcy. Private coverage typically incorporates limits on the amount an individual need pay out-of-pocket, but these limits vary among policies. Private coverage also generally includes an annual (and sometimes lifetime) maximum coverage limit. Under Medicaid, out-of-pocket expenses are minimal, and there is no annual maximum coverage limit. Despite this generous design, Medicaid provides

limited asset protection to adults in most states. As table 3.6 shows, in all but a handful of states, asset limits for Medicaid coverage are well below the level of protection granted under state bankruptcy laws.

If the purpose of extending insurance coverage is to substitute for bankruptcy asset protection, then the level of that coverage should depend on the quantity of assets to be protected. As is well known, most uninsured people have low incomes (Ferry et al. 2002). Less information is available on the assets of uninsured people. I examined data from the 1998 Survey of Program Dynamics (SPD) (a follow-up to the SIPP; U.S. Bureau of the Census 2002) to assess the extent and nature of assets held by uninsured people. Table 3.8 shows asset holdings for uninsured (and privately insured) people with incomes below and above 200 percent FPL. As the table suggests, asset holding among uninsured people is also quite low. Only 40 percent of uninsured people own homes. Most have mortgages on their homes (the SPD does not provide information on outstanding mortgage amounts). Three-fourths of uninsured adults do own cars, but the average value of cars owned by uninsured people (net of outstanding loans) is only $2,586. Relatively few uninsured people own other assets and most have debts. Indeed, 52 percent of uninsured adults with incomes below 200 percent FPL have a zero or negative net worth, excluding their home.

This pattern of asset ownership suggests that if the only goal of health insurance is to serve as a substitute for bankruptcy protection, it will have relatively little impact on the low-income uninsured (many in this group have no assets to shield). About 78 percent of uninsured adults with incomes below 200 percent FPL have net assets (excluding home ownership) low enough to meet median Medicaid asset limit guidelines ($2,000). Of this group, fewer than 40 percent own a home. Publicly funded health insurance, however, may or may not be a more efficient way to pay their medical debts than hospital uncompensated care pools.

Health insurance may be more effective as a bankruptcy alternative for slightly higher-income adults. About half of this group owns a home. Even in this group, however, only 28 percent exceed average Medicaid asset limits, excluding the value of their home.

V.   Coverage Content and Insurance Expansions: A Simulation

The results above suggest that the content of coverage is likely to affect the take-up of a coverage expansion and its effects on health service

Table 3.8
Assets and Insurance

Asset/Debt Type	Uninsured poor	Medicaid poor	Privately insured poor	Uninsured not poor	Privately insured, not poor
Own a house?	40%	28%	62%	50%	82%
Average value of home?	$66,931	$49,918	$91,392	$106,108	$137,408
Have a mortgage?	62%	61%	68%	65%	80%
Own other real estate?	4%	2%	9%	9%	17%
Own at least one vehicle?	74%	56%	89%	70%	94%
Net value of vehicle(s)?	$2,586	$2,022	$3,085	$3,266	$4,109
Have other debts?	39%	36%	51%	35%	55%
Average amount of other debts?	$9,475	$7,449	$7,622	$10,442	$10,301
Have a savings account?	9%	5%	15%	9%	31%
Average balance of savings account?	$2,213	$614	$4,304	$4,560	$10,652
Have stocks or mutual funds?	1%	<1%	3%	3%	13%
Average total net worth?[a]	$544	−$1,346	$4,874	$4,626	$18,302

Source: Survey of Program Dynamics, 1998.
[a] Does not include any measure of home value.

use and asset protection. To assess the magnitude of these effects for potential coverage designs, I conducted a simulation exercise.

Using the 1996 MEPS, supplemented by asset data imputed from the SPD, I constructed a description of health service use and spending among uninsured people with incomes below (and above) 200 percent FPL. I focus on five aspects of health service use and spending: the level of spending, the variance of spending, the share of people with at least one physician visit, the number of physician visits, and the number of people with positive assets. Beginning with this baseline, I then simulate the effect of giving each person in this population coverage with specific characteristics. Based on this simulation, I evaluate alternative coverage policies in terms of their (1) insurance value to the newly insured person, (2) health spending value to the newly insured person, (3) reduction in bankruptcy, (4) effect on physician visits, and (5) residual uncompensated care.

Simulation Methodology

To conduct this simulation, I first match MEPS data on utilization among the full-year uninsured to data on asset ownership from the Survey of Program Dynamics, using common covariates to match. Next, I use the RAND Health Insurance Experiment (HIE) data to estimate the probabilities of service use under each RAND fee-for-service health plan type (defined by cost-sharing only). All data are for the non-elderly adult population, age 19 to 64. (All simulations are conducted separately for the population with incomes below and above 200 percent FPL because service use responsiveness and asset holdings are quite different in these two populations.)

I encounter two problems in using the RAND HIE data in this way. First, these data were collected over twenty years ago. Although several more recent studies suggest that the relative effects of cost-sharing on service utilization patterns have not changed in that interval, overall patterns of service use certainly have. A comparison of the RAND data and the MEPS shows, in particular, that use of inpatient care has declined substantially, while use of pharmaceutical care has increased. Physician service use patterns have not changed much.

Second, the RAND data do not include a group that is completely uninsured. Even after adjusting for health status and demographics, uninsured people in the 1996 MEPS use fewer services (of all types) than do those with a 95 percent cost-sharing plan in the RAND HIE.

To address these problems, I report two sets of results below. In one set of results, I adjust the RAND 95 percent cost-sharing results to a baseline of current use by the uninsured. I then apply *relative* increases in service use, adjusted for health status and demographics, from that baseline using the RAND data. Thus, where the RAND data show that physician visits under a 50 percent cost-sharing plan are 16 percent greater than under a 95 percent cost-sharing plan, I increase average visits from the uninsured baseline by 16 percent. Then, I produce estimates from the RAND HIE of the effect of cost-sharing on the log of the level of use conditional on use for each type of service use. I adjust the RAND figures using the ratio of medical expenditures per capita in 1996 to that in 1980. I map the distribution of expenditure change conditional on use onto the MEPS.

Finally, I apply a 20 percent correction to all service use above 80 percent of $2,000 (or the plan specific out-of-pocket maximum, as applicable) up to the benefit maximum, to account for increased service use among the uninsured above the RAND maximum dollar exposure limit. I use the 20 percent figure to accord with Doyle's (2001) estimate of the effect of being uninsured on unanticipated hospital service use. Note that this figure is considerably lower than that computed by Manning and Marquis (1996) and based on the RAND results. Those figures do not take into account the provision of uncompensated care.

These corrections adjust the MEPS/RAND match for changes in the baseline and for utilization above the uncompensated care threshold. They do not adjust the MEPS/RAND match for any increase in the probability of service use among people insured with high-deductible coverage. To test for the validity of this assumption, I examine the effects on the probability of service use of changing the maximum dollar exposure under the 95 percent cost-sharing plan for low-income people in the RAND experiment. I find no significant or substantial effect of the maximum dollar exposure on the propensity to seek care. While by no means conclusive, this result suggests that adding very-high-deductible coverage is unlikely to affect the use of front-end care substantially.

As an upper-bound check on the importance of this assumption, I repeat the analysis treating the RAND 95 percent cost-sharing plan (and other RAND plans) as a new high-deductible plan. I compare baseline service use with actual service use under the RAND 95 percent plan. Thus, I assume that, if given a 95 percent cost-sharing plan, uninsured people would increase their probabilities of service use to RAND

levels. In these analyses, I do not further adjust service use above the maximum dollar exposure levels. Note that these analyses do not account for changes in the pattern of care-seeking since the RAND experiment took place.

Using both these simulation structures, I compute changes in the aggregate and out-of-pocket expenditures of the MEPS sample population. To account for the effect of the possibility of bankruptcy on the variance of out-of-pocket expenditures, I truncate out-of-pocket expenditures at 20 percent of income plus net worth plus $10,000.[6] This estimate of the out-of-pocket expenditures an individual might incur without declaring bankruptcy is generous. It inflates the resulting variance of out-of-pocket spending figures, leading to higher insurance values. Finally, I assume that people with health insurance lose access to the sliding scale and free care services that they used before. This assumption is supported by anecdotal discussions with hospital and clinic managers.

I value additional medical spending paid by insurance at one-half its cost and additional medical spending paid for out-of-pocket at its cost. I compute the insurance value of coverage as the sum of the decline in out-of-pocket spending and a constant relative risk aversion adjusted reduction in the variance of out-of-pocket spending. I apply a risk aversion parameter of 0.00024, at the midpoint of the range identified by Szpiro (1986) and comparable to the estimate used by Manning and Marquis (1996). I conducted sensitivity tests around the risk aversion parameter but found that using a larger parameter had little effect on the pattern of results. I measure the total value of coverage as the sum of the value of additional medical utilization and the insurance value.

Effects on Take-Up

The method above generates population averages. To compute the effects of alternative benefit packages on the probability of take-up, I must assess the value of each package to each individual in the data. I assume that each person accurately projects her or his own average expected medical spending and out-of-pocket spending. Each person also gains an insurance benefit from the reduction in expected out-of-pocket expense variation associated with an insurance plan. I then calculate the percentage of uninsured people who would be any better off, and $100 better off, by joining the plan than remaining uninsured.

Results

Results of the simulation are reported in tables 3.9 and 3.10. The base-line shows expenditures before coverage expansion. Note that existing medical expenditures would lead to bankruptcy (under the definition used here) for about 2.8 percent of the population. Table 3.11 presents the results of the second type of simulation where RAND utilization is assigned as a separate insurance plan.

The second row of tables 3.9 and 3.10 shows the effect of giving each uninsured person a benefit package with a $1,000 deductible and a $1,000,000 benefit maximum (note that this maximum is never binding in the MEPS sample). This policy induces a small amount of additional medical spending, entirely among those whose baseline spending exceeded 80 percent of the deductible. This policy also generates a small increase in out-of-pocket spending (mainly because insured people no longer have access to free care below the level of the deductible) and a large decrease in the variance of out-of-pocket spending. For the plan considered in row 2, the total value of coverage, the sum of the insurance value and the value of added medical spending, was $108.

The $1,000 deductible plan led to a very slight increase in bankruptcy rates in the target population because much of the increase in medical spending was paid out-of-pocket. The plan did not affect the proportion of patients with a physician visit because we assume that no one will be motivated to use services for the first time with the high deductible. Eighty-two percent of the uninsured low-income population would be better off with this plan than with no coverage, but only 8 percent of this population would obtain $100 of value from this plan.

The next two rows in the tables show similar results for plans with larger deductibles. In this low-income population, plans with deductibles of $2,000 or more actually have a negative value from the perspective of the purchaser. They cover a few catastrophic expenses for those who would have incurred them, but for many in this group, existing bankruptcy protection would have addressed these costs. For the rest of the population, the plans actually increase the probability of bankruptcy by eliminating access to the uncompensated and charity care safety net below the deductible. Note that under these policies, however, hospital uncompensated care expenditures would decline because bankruptcies due to medical expenses below the deductible would not eliminate coverage above the deductible.

Table 3.9
Consequences of alternative insurance plan for uninsured population, <200% FPL

Plan description	Expenditure measures			Outcome measures				Take-up measures	
	Medical spending	OOP spending	Standard deviation of OOP	Total value	Bankrupt	Any physician visit	Uncompensated care	Better off (%)	At least $100 better off (%)
Baseline	$529	$259	$794		2.8%	38.1%	$271		
$1,000 deductible, $1 million benefit maximum	$635	$263	$365	$108	3.0%	38.1%	$0	82	8
$2,000 deductible, $1 million benefit maximum	$635	$367	$608	−$24	4.4%	38.1%	$0	70	3
$3,000 deductible, $1 million benefit maximum	$635	$424	$777	−$109	5.8%	38.1%	$0	50	1
25% copayment to $2,000, $1 million benefit maximum	$847	$190	$422	$324	2.8%	47.0%	$0	95	59
Free care, $1 million benefit maximum	$1,064	$0	$0	$601	0.0%	61.0%	$0	98	85
Free care, $100,000 benefit maximum	$1,064	$0	$0	$602	0.0%	61.0%	$0	98	85
Free care, $10,000 benefit maximum	$981	$43	$665	$465	0.3%	61.0%	$43	97	71
Free care, $5,000 benefit maximum	$944	$125	$969	$303	1.4%	61.0%	$43	83	64
Free care, $1 million benefit maximum but no prescription benefits	$868	$64	$361	$424	2.3%	55.1%	$64	97	67

Table 3.10
Consequences of alternative insurance plan for uninsured population, >200% FPL

Plan description	Expenditure measures			Outcome measures				Take-up measures	
	Medical spending	OOP spending	Standard deviation of OOP	Total value	Bankrupt	Any physician visit	Uncompensated care	Better off (%)	Much better off (%)
Baseline	$701	$328	$860		1.4%	39%	$373		
$1,000 deductible, $1 million benefit maximum	$841	$288	$368	$182	0.5%	39%	$0	85	10
$2,000 deductible, $1 million benefit maximum	$841	$397	$611	$45	1.2%	39%	$0	72	4
$3,000 deductible, $1 million benefit maximum	$841	$455	$782	−$42	1.6%	39%	$0	56	2
25% copayment to $2,000, $1 million benefit maximum	$970	$183	$367	$379	0.3%	48%	$0	96	71
Free care, $1 million benefit maximum	$1,186	$0	$0	$659	0.0%	51%	$0	99	84
Free care, $100,000 benefit maximum	$1,185	$0	$0	$658	0.0%	51%	$0	99	84
Free care, $10,000 benefit maximum	$1,120	$213	$1,795	$27	1.0%	51%	$96	33	26
Free care, $5,000 benefit maximum	$1,059	$287	$1,875	−$113	1.7%	51%	$92	29	23
Free care, $1 million benefit maximum but no prescription benefits	$1,066	$70	$311	$517	0.4%	46%	$70	98	81

Table 3.11
Consequences of alternative insurance plans for uninsured population with RAND utilization levels

Plan description	Expenditure measures			Outcome measures				Take-up measures	
	Medical spending	OOP spending	Standard deviation of OOP	Total value	Bankrupt	Any physician visit	Uncompensated care	Better off (%)	Much better off (%)
<200% FPL									
Baseline	$529	$259	$794		2.8%	38.1%	$271		
$2,000 deductible	$706	$471	$696	$121	4.5%	51.1%	$0	88	19
25% cost-sharing to $2,000	$849	$206	$323	$523	2.3%	61.2%	$0	98	70
Free care	$1,078	$0	$0	$836	0.0%	80.2%	$0	100	87
>200% FPL									
Baseline	$701	$328	$860		1.4%	39%	$373		
$2,000 deductible	$729	$405	$310	$248	1.2%	72%	$0	91	24
25% cost-sharing to $2,000	$926	$211	$282	$566	0.4%	82%	$0	99	86
Free care	$1,044	$0	$0	$821	0.0%	88%	$0	100	92

The next row of each table examines the effect of a 25 percent copayment policy without a deductible but with a $2,000 stop loss. This policy induces much more medical spending and is much more valuable to purchasers. Almost everyone is better off with such a plan, and a majority of the uninsured would value it above $100.

The next four rows show the effect of a front-end policy that offers free care with varying benefit maximums. For this population, lowering the benefit maximum has little effect on the value of coverage. Even a policy with a very low benefit maximum is worth more to uninsured people, under the assumptions used here, than one with a $1,000 deductible. Front-end loaded policies, however, increase the amount of uncompensated care in the system relative to high-deductible policies.

The final row of each table shows the effect of a policy that excludes coverage for prescription drugs. Lack of prescription drug coverage in a free care policy reduces medical visits and drug use (Stabile 1999). This policy has benefits to the uninsured roughly equal to those of a policy that includes drug coverage but caps benefits at $10,000.

Table 3.10 reports similar results for the uninsured population with incomes over 200 percent FPL. The patterns are quite similar, except that the higher-deductible coverage has slightly greater value to this population, and the benefit caps reduce the value of coverage much more for this group. Bankruptcy is less common among the group over 200 percent FPL under all insurance plans.

The results in table 3.11 suggest that our assumption that high-deductible plans do not induce up-front service use makes little difference to the pattern of results above. The increase in utilization under the 95 percent cost-sharing RAND plan (equivalent to a $2,000 deductible plan in tables 3.9 and 3.10), which takes place mainly below the deductible, increases the value of the plan by about $160 relative to the base case results above. Under the assumption of increased up-front service use, 19 percent of low-income uninsured people would view the $2,000 deductible plan as worth $100 or more.

This increase in service utilization similarly increases the value of the other models in table 3.11 by a roughly equivalent amount. It also leads to a substantial increase in the propensity to use medical services relative to the baseline. The level of physician service use under free care using the RAND-based estimates is over one-third higher than under free care using the model in tables 3.9 and 3.10.

VI. Conclusions

Prior research examining the effects of expanding health insurance coverage has treated all coverage as equal. But all coverage is not equal—not from the perspective of uninsured people and not from the perspective of public policy.

If the financial and nonfinancial costs of taking up coverage are $100, then the take-up rate for coverage offering unlimited free care would be over eight times greater than that for coverage with a $1,000 deductible, for the current uninsured population with incomes below 200 percent FPL. The estimates also suggest that something is not always better than nothing. Depending on how uncompensated care and free care systems treat people with high-deductible policies, low-income uninsured people may actually be worse off by moving from no insurance to high-deductible coverage.

Notes

1. House Majority Leader Dick Armey and Representative Pete Stark, *Washington Post*, June 18, 1999, A41.

2. See, for example, http://www.noridian.com/extranet/bank/ind/pdf/29301814. pdf or http://www.bcbsnc.com/plans/blueadvantage/how.cfm or http://www. health-insure.com/cainsfaq.html.

3. Most studies of take-up decisions have examined coverage categorically. Many qualitative studies do address differences between public and private coverage (such as stigma), but other distinctions are generally ignored.

4. Note that the share paid by the uninsured may misstate true financial exposure because providers may measure uncompensated care relative to list prices or, conversely, prices paid by the uninsured may already incorporate discounts. Finally, uninsured people who do not pay their health care bills may be subject to harassment by collection agencies and may be forced into bankruptcy. We do not incorporate these nonfinancial costs in the analysis below.

5. Practically speaking, the last is subsumed in the first two. It is part of the question of whether health services can be provided more cost effectively by either increasing preventive service use (to prevent more serious complications later) or by paying the costs of hospital care through insurance rather than uncompensated care. Increasing preventive services means providing coverage that increases health service use, the first goal. Paying costs through insurance means offering more financial protection, the second goal. Note that given the difficulties in inducing take-up in a voluntary health insur-

ance market, it seems unlikely that paying for hospital care through insurance rather than direct payments to hospitals is cost effective.

6. The increase in expenditures based on Doyle (2001) is not applied to expenditures beyond those covered by the plan.

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