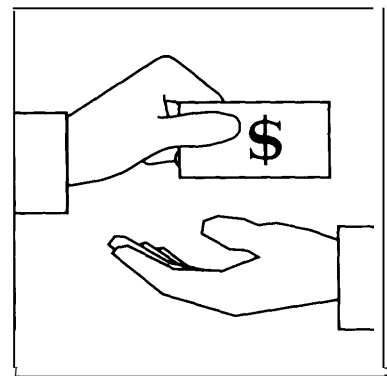


# Summary | 1

**A**s reform of the Nation's health care system has risen to the top of the domestic policy agenda, the issue of benefit packages has increased in importance. Clearly, the scope and depth of services that are covered in any health insurance scheme can have a tremendous impact on how much health care people obtain, on the costs to the system, and, ultimately, on the health of the Nation's people. To provide Americans with an optimal level of care, at a reasonable cost, policymakers at all levels have been rethinking traditional approaches to benefit design and considering the merits of using explicit scientific criteria to more clearly define the benefit structure.

This background paper is one of a series of publications on *benefit design in health care reform* being issued as part of the Office of Technology Assessment's (OTA) assessment, *Technology, Insurance, and the Health Care System*. It examines the health services and economics literature to learn what is known about how patient cost-sharing affects the use of health care services, expenditures, and, ultimately, health outcomes. The focus is on basic physician and hospital care for services not typically related to mental and substance abuse disorders.<sup>1</sup> This chapter provides a summary of OTA's findings. Chapter 2 begins with a brief review of the philosophy behind patient cost-sharing and includes a discussion of current trends in private and publicly financed health coverage. Chapter 3 reviews the lessons and limitations of the Rand Health Insurance Experiment (HIE), the most valuable cost-sharing research available. An appendix



<sup>1</sup> Also see OTA's "Pharmaceutical R&D: Costs, Risks, and Rewards," for information on cost-sharing in prescription drug coverage (79). Prescription drug coverage is not within the scope of this paper.

## 2 | Benefit Design: Patient Cost-Sharing

presents the findings of selected studies that have examined the actual imposition of cost-sharing in various settings. (The other publications in the Benefit Design Series are described in box 1-A.)

The overall assessment is being conducted in response to a request from the Senate Committee on Labor and Human Resources (Senator Edward M. Kennedy, Chairman), which was endorsed by the House Committee on Energy and Commerce (Congressman John D. Dingell, Chairman), the House Committee on Ways and Means Subcommittee on Health (then-Ranking Minority Member Willis D. Gradison), and Senator Charles Grassley, a member of OTA's Technology Assessment Board. Chairman Dingell asked OTA to assess the extent to which a minimum benefit package could be designed based on information about health effects and cost-effectiveness. Other requesters agreed that this was an important question and that OTA should address it by means of an overall brief on the topic, as well as through examinations of the evidence on clinical preventive services, mental health and substance abuse treatment services, and patient cost-sharing.

### WHAT IS PATIENT COST-SHARING?

Almost all Americans with health insurance contribute to the premiums for their health coverage and have varying levels of out-of-pocket responsibility when they visit a physician, are hospitalized, or seek many other health care services. Employers are increasingly using pa-

tient cost-sharing to control the health care costs associated with plans they may offer to their employees and also as an incentive to employees to enroll in more tightly controlled managed-care plans. Cost-sharing also continues to be a basic feature of many health care reform proposals.

In traditional indemnity or fee-for-service (FFS) health care plans, cost-sharing typically consists of:

- an initial *deductible*;<sup>2</sup>
- plus a percentage of covered expenses, referred to as *coinsurance*;<sup>3</sup>
- up to a *maximum* annual dollar amount.<sup>4</sup>

Members of health maintenance organizations (HMOs) are rarely subject to deductibles or coinsurance but often pay a flat *copayment*<sup>5</sup> for primary care visits and sometimes for hospitalization.

This background paper focuses only on certain forms of patient cost-sharing—those such as deductibles, coinsurance, and copayments that are based on a person's actual use of health services and that are typically levied at the time services are received. Deductibles, coinsurance, and copayments are designed, in part, to make people “think twice” before seeking care and to forgo the use of services that are expected to bring little benefit. Premium costs serve a different purpose than other cost-sharing mechanisms; they do not directly affect how many services are

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<sup>2</sup> A deductible is the amount of covered health care expenses (e.g., \$200, \$500, \$1,000) that must be incurred by the health plan enrollee and his or her dependents before any health benefits become payable by the health plan. Deductible requirements apply to each individual in a family for a specific time period (usually a year). Some plans *specify* deductibles after which no additional individual deductibles are required; family deductibles are typically equivalent to two or three times the individual deductible.

<sup>3</sup> Coinsurance refers to the freed percentage of covered expenses shared by a health plan and an enrollee after the deductible requirement has been met. For example, an 80-20 coinsurance arrangement means that after the deductible is reached, 80 percent of covered expenses are paid by the plan and 20 percent are paid by the person covered by the plan.

<sup>4</sup> Such maximums are dollar limits on covered out-of-pocket expenses (e.g., \$750 or \$1,000) for deductible and coinsurance requirements incurred by the health plan enrollee. Not all health plans place limits on enrollees' out-of-pocket expenses.

<sup>5</sup> Copayments are fixed-dollar fees that a health plan enrollee is required to pay for a covered service (e.g., \$10 per office visit \$3 per prescription drug).

### Box I-A-Other Publications in the Office of Technology Assessment's Series on Benefit Design in Health Care Reform

- **Benefit Design in Health Care:** *Report #1-Clinical Preventive Services* (U.S. Congress, OTA, in preparation for September 1993). This report describes how information on effectiveness and cost-effectiveness might be used to design insurance benefit packages that might include clinical preventive services. The scope of the report is limited to clinical preventive services for asymptomatic persons (i.e., individuals without symptoms). Evidence on selected clinical preventive services is reviewed. The review covers most, but not all, services that might today be considered for inclusion in a benefit package, as well as issues to be considered for future decisions on inclusion or exclusion.
- **Benefit Design in Health Care Reform: #2 - Mental Health and Substance Abuse Treatment Services** (U.S. Congress, OTA, in preparation). This report has three goals. First, at the request of Congress, the report addresses the question of whether mental health and substance abuse benefits should be in a core benefit package, should there be such a package. Second, the report describes whether information on effectiveness and cost-effectiveness could be used to select specific types of mental health and substance abuse services for coverage, and the limitations of using such information. And third, the report reviews information on the effectiveness and cost-effectiveness of services for selected mental health and substance abuse conditions.
- **Benefit Design in Health Care Reform: Report #3-General Policy Issues** (U.S. Congress, OTA, in preparation). This report uses the analyses in this background paper and the two publications listed above, as well as other sources (e.g., U.S. Congress, OTA, *Evaluation of the Oregon Medicaid Proposal*, May 1992) to gain insights into the possibilities and pitfalls associated with trying to design a benefit package based on effectiveness and cost-effectiveness information, in relation to other critical factors, such as public preferences and political considerations.

SOURCE: Office of Technology Assessment 1993.

purchased, but rather the amount and type of insurance purchased.<sup>6</sup>

Discussions of cost-sharing policy typically center on copayments, coinsurance, and deductibles, but insured individuals have other, sometimes substantial, out-of-pocket health care costs (see table 1-1). These include the liability for physician fees that exceed the amount of reimbursement “allowed” by the health plan, referred to as “balance billing”; care received for uncovered preexisting conditions or during the waiting period before an employee or dependent becomes eligible for coverage; and frequently uncovered services such as routine physicals, vision and hearing care, experimental treatments, and speech, physical, and occupational therapy.

## SUMMARY OF FINDINGS

The following discussion reviews 14 fundamental questions key to developing cost-sharing policy. The first six questions are discussed in the context of the cost-sharing literature, emphasizing the lessons and limitations of the literature the Rand Health Insurance Experiment (HIE) in particular. OTA found that the HIE provides the most valuable research available concerning the use effects of cost-sharing and is the only source examining the health implications of cost-sharing. The HIE, closely examined, challenges commonly held notions about cost-sharing (see table 1-2). It also offers some fundamental lessons

<sup>6</sup> Nevertheless there is a relationship between premiums and other forms of cost-sharing. If a purchaser faces a choice between higher premiums with limited cost-sharing and lower premiums with high cost-sharing, he or she may choose to purchase the less expensive policy with higher deductibles and copayments or coinsurance.

Table I-I—Elements of Out-of Pocket Spending in Employment-Based Health Coverage

premiums	+ Cost-sharing for covered benefits	+ Coverage exclusions <sup>a</sup>	= Total out-of-pocket spending
	<ul style="list-style-type: none"> <li>. deductibles</li> <li>. coinsurance</li> <li>• copayments</li> <li>• balance billing<sup>b</sup></li> </ul>	<ul style="list-style-type: none"> <li>• treatment for uncovered preexisting conditions</li> <li><sup>b</sup> many preventive services (e.g., well-baby care, well-child care, adult physicals)</li> <li>• prenatal and maternity care for non-spouse dependents</li> <li>• services provided during new employee waiting periods</li> <li>• hospital stays beyond an approved length of stay</li> <li>• dental services</li> <li>• vision care</li> <li>• hearing aids</li> <li>• speech, physical, and occupational therapy</li> <li>• rehabilitation care</li> <li>• infertility (e.g., in vitro fertilization)</li> <li>• voluntary sterilization</li> <li>• experimental treatments (e.g., some AIDS drugs, autologous bone marrow transplants for breast cancer)</li> <li>• cosmetic surgery</li> </ul>	

<sup>a</sup> Includes common exclusions that are sometimes but typically not covered by employer-sponsored health plans. Based on surveys conducted by the Health Insurance Association of America (1992), KPMG Peat Marwick (1992), and the Department of Labor Bureau of Labor Statistics (1993).  
<sup>b</sup> Balance billing includes the provider's charges that exceed the health plan's "usual or customary" amount for the billed services.

SOURCE: Office of Technology Assessment, 1993.

about the impact of patient cost-sharing on the use of health care services in a *generally healthy, nonelderly* population, but the significant limitations of the experiment should be acknowledged (see box I-B).

The final eight questions are also addressed here because of their importance to cost-sharing policy; they are reviewed only briefly because the available literature provides little relevant wisdom and OTA did not examine these issues in depth.

### Fundamental Issues Related to Cost-Sharing

1. Does cost-sharing reduce utilization by promoting the use of more cost-effective, appropriate care and by discouraging the use of unnecessary services?

It now seems obvious, but the HIE and other cost-sharing literature have plainly demonstrated that, on average, insured individuals seek medical attention less often when they have to pay an out-of-pocket portion of the cost.

Although it is often argued that cost-sharing motivates people to seek information and make *better* decisions about their health care (i.e., to avoid the frivolous use of care), the HIE offers no supporting evidence for this. Instead it suggests that cost-sharing is a rather crude instrument for matching health care services with health needs. In fact, the experiment found that coinsurance deters individuals from seeking all types of care, even potentially effective treatment.

In addition, the HIE confirms the power of the health care provider in determining the use of health services. HIE participants in cost-sharing plans were much less likely to *seek* medical

Table 1-2—Patient Cost-Sharing: Conventional Wisdom vs. the Evidence

Conventional wisdom	Evidence
• Cost-sharing reduces utilization by promoting the use of more cost-effective, appropriate care and by discouraging the use of unnecessary services.	No. The Rand Health Insurance Experiment (HIE) offers no supporting evidence for this and, instead, suggests that cost-sharing is a rather crude instrument for matching health care services with health needs. Coinsurance deterred individuals from seeking all types of care, even potentially effective treatment and appropriate hospitalizations. The HIE also confirmed the power of the health care provider in determining demand for medical care. HIE participants in cost-sharing plans were much less likely to seek medical attention than others, but once they did, the amount and cost of their care was largely unaffected by cost-sharing and apparently was determined principally by their physician,
• Cost-sharing does not pose any health risks.	The jury is out. The HIE health-related findings are inconclusive in many respects. They do suggest, however, that some individuals, especially lower income persons in poor health, may be harmed by cost-sharing. The HIE identified three instances in adults (i.e., diastolic blood pressure; the estimated risk of dying from any cause based on smoking habits, cholesterol level, and systolic blood pressure; and corrected vision) and one in low-income children (i.e., anemia) where cost-sharing harmed the average participant. While this may suggest that the health risks of cost-sharing are minimal, this conclusion is confounded by the HIE finding that potentially effective treatment and appropriate hospitalizations were significantly deterred by cost-sharing. This conflict in the health-related results of the HIE may be due in part to the design of the experiment. For example, the Rand researchers acknowledge that the sample size was too small to measure how the experiment affected low-income children and adults, adults with chronic conditions such as cancer and rheumatoid arthritis, and children with chronic diseases such as asthma, congenital anomalies, or with life-threatening conditions.
• Cost-sharing reduces total system-wide health care spending.	It is clear that coinsurance has a major impact on expenditures, at least in the short term and under the conditions of the HIE. The total annual medical expenditures of individuals (i.e., insurer payments plus patients' out-of-pocket costs for covered services) with no cost-sharing in the HIE were 23 percent higher than those with a 25 percent coinsurance rate, and 46 percent higher than those with a 95 percent rate. The long-term cost implications of deterring the use of potentially effective health care services are not known.
Eliminating cost-sharing encourages compliance with preventive care recommendations.	Yes, but not necessarily to recommended levels. Preventive care use in the HIE was well below recommended levels in both the no-cost-sharing and cost-sharing plans. Participants in cost-sharing plans were the least likely to use preventive care of any type including annual physical examinations, Pap smears by women ages 45 to 65, and immunizations among children under 7 years of age.

SOURCE: Office of Technology Assessment, 1993, based on W. Manning, J. Newhouse, N. Duan, et al., "Health Insurance and the Demand for Medical Care: Evidence from a Randomized Experiment," *American Economic Review* 77(3):251-277, 1987; K. Lohr, R. Brook, C. Kamberg, et al., "Use of Medical Care in the Rand Health Insurance Experiment: Diagnosis- and Service-specific Analyses in a Randomized Controlled Trial," contract report prepared for the U.S. Department of Health and Human Services, Contract No. 016B-80, Santa Monica, CA, December 1986; R. Brook, J. Ware, Rogers, W. H., et al., "The Effect of Coinsurance on the Health of Adults: Results from the Rand Health Insurance Experiment," contract report prepared for the U.S. Department of Health and Human Services, Contract No. 016B-80, Santa Monica, CA, December 1984; E. Keeler and J. Rolph, "How Cost Sharing Reduced Medical Spending of Participants in the Health Insurance Experiment," *Journal of the American Medical Association* 249(16):2220-2222, 1983; and N. Lurie, W. Manning, C. Peterson, et al., "Preventive Care: Do We Practice What We Preach?" *American Journal of Public Health* 77(7):801-804, July 1987.

attention than others, but once they did, the amount and cost of their care was largely unaffected by deductible or coinsurance requirements and apparently was determined principally by their physician or other health care provider.

## 2. Does cost-sharing have health effects?

Despite persistent press reports and conventional wisdom to the contrary (see, for example, 54, 55), OTA finds that the health results of the HIE are largely inconclusive. The HIE findings do suggest, however, that some individuals,

### Box I-B—Important Limitations of the Rand Health Insurance Experiment

The Rand Health Insurance Experiment (HIE) provides policymakers the richest source of information available on the effects of patient cost-sharing. Nonetheless, there are limitations to the experiment's relevance to today's health reform deliberations. These limitations are not due to the shortcomings of the Rand design<sup>ERS</sup> but result largely from three factors: the dramatic changes in American health care delivery and financing since the time of the experiment,<sup>1</sup> the relatively small size of the HIE study population, and the unique nature of the health coverage provided to HIE participants. The most critical limitations are outlined below:

- . The HIE was essentially a study of the effects of *coinsurance* on the average use of traditional, fee-for-service medical care by generally healthy, nonelderly individuals who were either well- or very well-insured.
- . The HIE health plans were atypically comprehensive; for example, prescription drugs **and preventive care were fully** covered. HIE participants had complete freedom of choice of providers and there were no limits on providers' discretion to order services for patients—hardly typical of today's increasingly restrictive managed-care environment.
- The Rand researchers acknowledge that the sample size was too small to adequately measure how the experiment affected low-income children and adults,<sup>2</sup> adults with chronic conditions such as cancer and rheumatoid arthritis, and children with chronic diseases such as asthma, with congenital anomalies, or with life-threatening conditions.
- . All the participants in the experiment were protected by income-based limits on their out-of-pocket costs, an approach to cost-sharing that was unique at the time of the experiment and remains rare today. Further, this feature of the experiment probably moderated the effect of cost-sharing on low-income participants since

<sup>1</sup> The HIE was conducted from 1974 through 1982. The design period of the experiment occurred even earlier.

<sup>2</sup> "Low income" was defined differently in the various Rand analyses, sometimes including individuals with family incomes as great as two times the Federal poverty level (FPL). The FPL was estimated to be \$14,343 for a family of four in 1992 (83).

especially lower-income<sup>7</sup> individuals in poor health, may be harmed by the deterrent effects of cost-sharing. In general, the HIE researchers concluded that *not* having cost-sharing led to *more* medical care, but they were unable to find much evidence that, for the average participant, *more care* led to better health outcomes. Nor did they **find** much measurable harm from less care among average participants. There were, **how-**

ever, three instances in which the average adult with *no* cost-sharing was shown to experience better health outcomes: diastolic blood pressure improved significantly among participants with hypertension;<sup>8</sup> the estimated risk of dying for those who were at elevated risk **was reduced by 10 percent;**<sup>9</sup> and corrected vision improved @ @ Y due to an increased number of eye examinations. Among children, the only measurable poor health

<sup>7</sup> The HIE working definitions of 'low income' or 'poor' differed across the series of published Rand findings. In many of the HIE reports, 'low income' was used to describe persons whose family incomes were at the bottom 20 percent of the HIE income distribution well below the Federal poverty level. Because of sample size limitations, some important Rand analyses used a much broader definition of low income, one that included a **large** segment of the population with family incomes as great as two times the Federal poverty level—equivalent to one out of **three nonelderly** individuals (71.9 million people in the U. S.) in 1991.

<sup>8</sup> Not having cost-sharing reduced diastolic blood pressure among clinically defined hypertensive HIE participants by an average of 1.9 mm Hg.

<sup>9</sup> The high-risk group included the 25 percent of the sample who were the least healthy, based on their initial levels of serum cholesterol, blood pressure, and **cigarette** smoking.

- they were the most likely to exceed their annual out-of-pocket cost ceiling, after which all covered services became available with no cost-sharing.<sup>3</sup>
- **Any possible long-term health effects** of cost-sharing could not be identified led with confidence because participants were followed for a maximum of five years.
  - The HIE could not examine how providers might respond to national scale changes in patient cost-sharing. This dynamic could have important cost implications if, for example, widespread increases in patient cost-sharing diminished demand for health care services and providers responded by increasing their fees or the volume of services they provide to their patients. On the other hand, expanding coverage to those who are currently uninsured could generate demand for care that would more than compensate for the deterrent effects of cost-sharing.
  - Finally, the HIE and the cost-sharing literature in general offer almost no insight into how cost-sharing influences use of care and health outcomes in a managed-care environment! In fact, the only peer-reviewed cost-sharing studies on health maintenance organizations derive from a single staff model plan, the Group Health Cooperative of Puget Sound, and these analyses do not assess health effects.<sup>5</sup> This gap in our knowledge is especially critical today as employers and other payers steadily persuade Americans to adopt the strictures of managed care and as they also persuade HMOS to adopt cost-sharing in addition to other means of trying to keep utilization low.

<sup>3</sup> The maximum out-of-pocket liability was set at either 5 percent, 10 percent, or 15 percent of family income per year, or no more than \$1,000 (\$750 in some sites). Note that anyone with a family income over \$25,000 (in 1973 dollars) was excluded from the experiment; inflating this by the change in median household income, this is the equivalent of approximately \$78,000 in 1992 dollars.

<sup>4</sup> The HIE also randomly assigned a group of people to an HMO to assess the effect of an HMO delivery system (which did not require patient cost-sharing) on utilization and health outcomes, but that component of the study is not within the scope of this report because there was no patient cost-sharing in the HMO.

<sup>5</sup> These studies were conducted by D. Cherkin, L. Grothaus, and H. Wagner (15,16) and were not part of the HIE. See appendix D for a review of this literature.

SOURCE: Office of Technology Assessment, 1993.

outcome was found among low-income children with anemia.<sup>10</sup> Low-income children who were at highest risk of anemia were much less likely to have anemia at the end of the study if they were enrolled in a plan that did *not* require cost-sharing than if they were in a cost-sharing plan. While this limited set of health effects implies that cost-sharing poses health risks to an average, healthy population in only a few instances, this conclusion is called into question by the HIE finding (see #1 above) that coinsurance significantly kept individuals from potentially effective treatment, even hospitalizations that were judged to be appropriate. How is it that coinsurance substantially reduced the use of care

thought to be “highly effective” but without any *measurable* harm? This may be due in part to the design of the experiment (see box I-B). For example, the Rand researchers acknowledge that the sample size was too small to measure how the experiment affected low-income children and adults, adults with chronic conditions such as cancer and rheumatoid arthritis, and children with chronic diseases such as asthma, congenital anomalies, or with life-threatening conditions.

In addition, the long-term health effects of cost-sharing remain unknown. One example, the HIE finding that coinsurance led to significant reductions in Papanicolaou (Pap) smears and immunizations, is enough to cast doubt on the

<sup>10</sup> In most of the HIE analyses, children were defined to include anyone under the age of 14. No separate analyses of adolescents were conducted.

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conclusion that there was no long-term harm from financial obstacles to these particular preventive services.

3. Does cost-sharing help to control expenditures?

Coinsurance requirements substantially reduced the total health care spending in the HIE by keeping people out of the health care system altogether.<sup>11</sup> HIE participants with *no* cost-sharing incurred 23 percent higher annual expenditures than those who were subject to 25 percent coinsurance, and 46 percent higher annual expenditures than those with 95 percent coinsurance. However, the *long-term cost* implications of deterring the use of potentially effective health care services are not known.

4. How are individuals with low incomes affected by cost-sharing requirements?

Cost-sharing was based in part on income in the HIE and this feature of the experiment probably moderated the effects of cost-sharing on lower-income families. Nonetheless, even with the income protections in the HIE health plans, the Rand findings reveal a pattern of greater cost-sharing effects on HIE participants with lower incomes, especially those in poor health. In many of the Rand reports, persons with lower incomes used care less often than those who were better off financially, sometimes with striking results. For example, the improvement in blood pressure among those with hypertension was greatest for those HIE participants with low incomes who were in a no-cost-sharing plan and this improvement had significant mortality implications. In addition, low-income adults who began the experiment in poor health, and were enrolled in a plan with *no* cost-sharing, reported the largest reduction in serious symptoms during the course of the study.<sup>12</sup>

5. Do coinsurance requirements affect children differently?

The HIE found that, on average, coinsurance had similar effects on children's and adults' use and expenditures for outpatient care. In contrast, while adults in the no-cost-sharing plan were hospitalized at greater rates than others, the absence of cost-sharing did not lead to more pediatric hospitalizations except for children under 5. Thus, the hospital-related findings suggest that there would be little risk of overutilization of hospital care by children 5 years old and over, if children's hospital stays were exempt from patient cost-sharing. However, should outpatient cost-sharing be required of adults, the HIE findings do not support different requirements for children *overall*, with two important exceptions.

First, not having cost-sharing in the HIE led to significantly higher use of any pediatric *preventive* service, especially immunizations among children under age 7. In light of this finding, eliminating cost-sharing for certain children's preventive services could be justified if prevention were a policy goal.

Second, the HIE findings reveal that coinsurance has a substantially stronger deterrent effect among low-income children compared with others with greater financial resources in the HIE; these low-income children included anyone under age 14 with family incomes up to 200 percent of the Federal poverty level. Special income protections for low-income children, as defined in the Rand HIE, may be necessary to ensure their access to basic, primary care.

6. How is the use of preventive services affected by cost-sharing?<sup>13</sup>

A broad range of clinical preventive services for asymptomatic individuals was fully covered by the HIE health plans and subject to the same

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<sup>11</sup> Spending included all expenses reimbursed by the health plan to providers as well as out-of-pocket costs borne by the participants.

<sup>12</sup> Although the HIE demonstrates the benefits of not having cost-sharing to some low-income individuals, studies of Medicaid beneficiaries and other low-income groups also make clear that "free care" alone does not assure adequate access to care (58).

<sup>13</sup> For a review of issues related to designing preventive health care benefits, see "Benefit Design in Health Care Reform: Report #1--Clinical Preventive Services," (80).



deductible and coinsurance requirements as all other health services. Consequently, the experiment offers several insights. First, requiring coinsurance significantly reduced use of Pap smears by women ages 45 to 65 and immunizations among young children. Second, despite the higher use of preventive services in the no-cost-sharing plan, use of these services remained well below recommended levels. Finally, even though HIE participants in the no-cost-sharing plan had, on average, an additional one to two physician visits annually, this increased contact with their doctor appeared to have no influence on their smoking habits, weight, or cholesterol levels.

### Other Questions and Pending Issues

Although available cost-sharing research provides limited insight into the following policy questions, they are briefly reviewed here because of their importance.

7. Are there specific services that should be considered for possible exemption from cost-sharing?

If cost-sharing is required, current research provides little evidence to support exemptions from cost-sharing for any specific services other than selected preventive services (see #6 above). However, several categories of care might merit cost-sharing exemptions or special consideration, including prenatal, maternity care, and services for the chronically ill. In addition, Brook has argued that cost-sharing policy be used to promote higher rates of appropriate care by, for example, waiving or reducing cost-sharing in cases where medical care interventions have clearly been demonstrated to be appropriate (10).

8. If cost-sharing is required, how can individuals be shielded from the risk of financial hardship and catastrophic costs?

Maximums on out-of-pocket expenditures based on income and limits on balance billing would substantially lessen the risk of financial hardship

due to health care costs. There are no reports of the extent to which balance billing contributes to catastrophic health care costs. However, without limits on balance billing, the public would remain vulnerable to costs substantially in excess of their health plan's out-of-pocket maximum.

9. Does cost-sharing help reduce premium requirements?

Patient cost-sharing clearly reduces overall health expenditures and would thereby reduce premium requirements, but the extent of savings would depend on the type of cost-sharing mechanism and the amount. The reduction in premiums would also depend, in part, on the administrative complexity of the cost-sharing structure. If out-of-pocket payments are allowed to vary substantially with income, type of service, or other patient characteristics, the related administrative costs could reduce any savings generated by a drop in demand for services.

10. Is it administratively feasible to base cost-sharing on income?

Although there are many supporters of income-based cost-sharing, little attention has been paid to the methods, logistics, and financial tradeoffs of administering such a policy. Important questions remain unresolved: how to determine and define income, how to account for changing personal or economic circumstances that families often encounter during a year (e.g., becoming unemployed, changing jobs, getting married or divorced), and whether the Federal income tax system can be relied on to support the administration of cost-sharing by providing income data or allowing for end-of-year tax credits or additional cost-sharing payments. Also, if cost-sharing were to be based on income, the HIE findings suggest that a substantial proportion of the population with family incomes *above the Federal poverty level* may require special income protections to ensure adequate access to care (see #4 above).<sup>14</sup>

Administrative costs are likely to increase with the complexity of the cost-sharing system and the

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<sup>14</sup>The Federal poverty level was estimated to be \$14,343 for a family of four in 1992.

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amount of information required to determine patients' out-of-pocket payments. Simplicity would argue for flat, nominal copayments characteristic of health maintenance organizations, yet such nominal fees generate only minimal revenue that would be further offset by administrative costs.

**11.** Does cost-sharing improve the efficiency of the health care system?

If efficiency implies that patient cost-sharing alone would make the system less wasteful, the answer is probably no. Coinsurance requirements would reduce total expenditures and the volume of services by deterring people from seeking medical attention altogether, although this would have no effect on overall efficiency. Some also argue that coinsurance and deductibles help minimize fraud and abuse by motivating patients to scrutinize the charges they are obligated to pay (75).

**12.** Is cost-sharing equitable?

Equity in health coverage may be viewed in several ways. "Horizontal equity" would require that individuals with the same income face the same economic burden. "Vertical equity" implies that persons with greater resources should bear a greater financial burden than others (71). Equity in *access to care* calls for the allocation of services on the basis of need, suggesting inequity when a person's cost-sharing requirements are an important predictor of his or her access to care (3). The HIE results indicate that in order to facilitate equitable access to potentially effective health care services, cost-sharing should be based on income. Compared with others who had higher family incomes, the deterrent effect of coinsurance was substantially stronger among low-income children and adults across a wide range of preventive (including well-child care, general adult medical examinations, and Pap smears), acute (including care identified as "highly effective"), and chronic care services. Among the lower-income adults at elevated risk, the absence of cost-sharing appeared to yield substantial benefits in improved vision, blood pressure, and even risk of dying.

Equity concerns can also be voiced for those who have chronic health problems and are repeatedly required to pay each year's maximum cost-sharing obligation.

**13.** Is cost-sharing generally acceptable to the public?

Some polling data indicate that many consumers commonly perceive cost-sharing to be more the problem than the solution to the health care crisis and that they are particularly worried about rising out-of-pocket expenses, confirming billing procedures, and unforeseen restrictions in coverage (35). It could be that personal preferences regarding cost-sharing could depend, to a great extent, on persons' economic status, their knowledge of their risk for incurring health care costs, their attitudes toward financial risk, and their past experience with the health care system (e.g., whether they have ever experienced substantial out-of-pocket costs) (53).

**14.** If cost-sharing is required, what is the ideal arrangement?

Unfortunately, the literature offers little guidance for developing specific cost-sharing formulae. The search for the ideal form and amount of cost-sharing cannot be separated from efforts to plan and reform the overall structure of health plan coverage and delivery. There is no obvious, magic formula for calculating precise recommended deductible, coinsurance, and out-of-pocket maximum levels in fee-for-service or managed health care. No one solution would fit all approaches to financing and health care delivery nor would it be equitable in all circumstances.

## CONCLUSIONS

The cost-sharing literature makes very clear a basic lesson of human nature: people will use services less often when they have to pay for them. However, conventional wisdom to the contrary, there is no evidence that people make better choices and decisions about their health care when they bear some of the cost. In the Rand

ing all types of care, even potentially effective treatment and appropriate hospitalizations.

The overriding power of the health care provider in determining the use of health services was also made clear, at least within the circumstances of the Rand HIE. In the HIE, once an individual sought medical attention, the amount and cost of their care was largely *unaffected* by cost-sharing and apparently was determined Principally by their physician.

Policymakers can be less certain about the *health* implications of cost-sharing but the HIE findings suggest that, if health effects are a concern, Congress should be cautious about the

extent to which cost-sharing is relied onto control costs, especially for *sick*, low-income individuals. These individuals are the most likely to benefit from receiving health care services at no out-of-pocket cost and the most likely to be harmed by patient cost-sharing requirements. Policymakers should also be aware that there is no evidence to suggest that cost-sharing's greater deterrent effect on those with lower incomes ceases at a rigid dollar income threshold.

Finally, the lack of information on how patient cost-sharing affects children and adults in *poor health*, regardless of their income, is worrisome and merits further investigation.