

Consumers' Knowledge About Their Health Insurance Coverage

M. Susan Marquis

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PREFACE

This report describes how much families appear to know about their health insurance coverage, and investigates whether this knowledge could be improved by enhancing consumer education and simplifying insurance plan benefits. Information concerning consumer knowledge of health insurance coverage, and of the medical care system in general, is relevant to policy decisions about the appropriate role for consumers in determining the allocation of medical care resources.

The present study is the second of two Rand reports prepared under Contract No. 18-P-97122/9 ("Consumer Understanding of the Medical Care Delivery System") with the Health Care Financing Administration, U.S. Department of Health and Human Services. Other work prepared under this contract measured consumer knowledge of the medical care delivery system and examined factors that affect variations in knowledge across individuals. The analysis is described by J. P. Newhouse, J. E. Ware, Jr., and C. A. Donald in "How Sophisticated Are Consumers About the Medical Care Delivery System?" *Medical Care*, Vol. 19, No. 3, March 1981, pp. 316-328, and in Rand Report R-2693-HHS of the same title.

Both reports should inform decisionmakers about the wisdom of relying on consumers to make efficient decisions regarding medical care use and treatment.

SUMMARY

Current legislative proposals emphasize increased reliance on the market for allocating medical care resources. Advocates of such proposals assume that consumers are (or can be made) sufficiently informed about the medical care system to make market processes work. Health insurance is a major component of the system, yet little attention has been given to how well consumers understand their insurance policies. This report examines the level of consumers' knowledge of their insurance coverage and investigates whether consumer education and simplified benefit structures would lead to improved knowledge.

The data for this study were collected as part of the Rand Health Insurance Study. Two questionnaires, one designed to measure families' perceptions of the services covered by their insurance and the second designed to measure their knowledge of the amount of insurance benefits, were administered to a sample of families in four sites. Knowledge was assessed by comparing responses to consumer questionnaires with information about the families' policies obtained from employers and insurance carriers.

Most families are informed about some aspect of their insurance coverage but many lack detailed knowledge of their benefits. Ninety percent of the families surveyed reported correctly that they were insured. These families were also accurate in reporting that their plan provides hospital benefits; however, they were less knowledgeable about which outpatient medical services were covered. Most insurance policies that provide benefits for outpatient physician care and drugs require that an initial deductible be satisfied before the policyholder is reimbursed for these services. Forty to 50 percent of the families with this type of coverage were not aware that outpatient physician or drug expenditures were covered. However, if the insurance plan did not require an initial deductible for outpatient care, 80 percent of the families correctly reported having coverage for outpatient services.

Whether families are familiar with the details of the payment provisions of their insurance policies depends on the complexity of the payment structure. Most families understand insurance policies that specify one or two parameters in their benefit provisions, but more complex payment structures are not well understood.

We also find that increased exposure to information about the insurance plan, represented by the length of time the coverage has been effective and whether the family had a choice of plans, increases knowl-

edge. This suggests that education programs could improve the general level of knowledge.

We conclude that if market strategies for allocating medical resources are pursued, both simplified insurance benefit structures and consumer education would aid consumers in making more informed economic choices of medical care.

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I. INTRODUCTION

Some health policy recommendations rest on assumptions about consumers' knowledge of the health care system. Advocates for greater reliance on market competition for allocating medical care resources (Ellwood, 1978; Enthoven, 1978; National Commission on the Cost of Medical Care, 1978) assume that consumers are (or can be made) sufficiently well informed to make market processes work well. Regulatory advocates, on the other hand, assume consumers cannot acquire the necessary knowledge to make optimum decisions.

Given its importance, surprisingly little measurement of consumer knowledge has been undertaken. Newhouse, Ware, and Donald (1981) show that most consumers have some basic understanding about the medical care delivery system, but many lack knowledge about certain facts that are relevant to decisions about medical care use. In this report, we examine another aspect of consumers' knowledge of the health care system—their knowledge about their health insurance coverage. Our results should enlighten policymakers about the wisdom of relying on consumers to make economic choices regarding their medical care treatment.

Health insurance affects the money price that families pay for care; if consumers do not understand their insurance benefits, their decisions about medical care use may be based on incorrect estimates of the prices they pay. Further, if families do not understand their present policies, they may be purchasing more or less insurance than they need.

Little is known about consumers' knowledge of their insurance policies. Studies of the factors affecting the consumers' choice between a prepaid group practice and other insurance programs have found that the reasons given for the choice accurately reflect differences between the programs (Tessler and Mechanic, 1975; Scitovsky, McCall, and Benham, 1978). On the other hand, some studies have found gaps in consumers' knowledge about the type of their insurance coverage (NCHS, 1966; Andersen, Kasper, Frankel, 1979). But these studies leave many unanswered questions about how much consumers know about their benefits.

Our purpose in this report is twofold: First, we will look at how accurately families can describe the extent of their benefits for a number of medical services; second, we will examine reasons for variation in such knowledge.

Under most health insurance contracts, families are reimbursed for

a share of their medical expenditures. These reimbursement insurance contracts frequently include deductibles (fixed amounts that the family must spend before the insurance policy pays any benefits), coinsurance (a percentage of the bill that the family pays), internal limits (e.g., limits on the number of doctor visits or hospital days allowed), or fee-schedule limits (e.g., limits on the per visit charge for doctor visits). An alternative to reimbursement insurance is prepaid health care. Families who belong to a prepaid health group pay a fixed periodic fee in advance and then receive specified health services from physicians participating in the group. We will examine and compare knowledge of benefits among families with reimbursement insurance and among those in a prepaid group.

In investigating what factors affect consumers' knowledge about their health insurance coverage, we are particularly interested in whether simplified benefit structures and consumer education would lead to improved consumer knowledge. We find that there do exist gaps in current knowledge, especially about coverage of outpatient services. Knowledge is greater when benefits are simple: Prepaid group practice plans and reimbursement policies with only a few parameters are more accurately understood than complex policies. We also find evidence suggesting that consumer education could be effective.

In Section II we describe the consumer sample, the data collection documents, and the basic analysis methodology. We then address three questions about consumers' knowledge: Do families know whether or not they have health insurance (Section III)? Do families know what services are covered by their insurance (Section IV)? Do families know what benefits the plan will pay for covered services (Section V)? A summary of our results and our conclusions are given in Section VI.

II. METHODS

THE SAMPLE

The sample for this study includes 3218 families in six sites: (1) the Dayton, Ohio, Standard Metropolitan Statistical Area; (2) the urbanized portion of the Seattle, Washington, Standard Metropolitan Statistical Area; (3) the Fitchburg-Leominster, Massachusetts, Standard Metropolitan Statistical Area; (4) the Charleston, South Carolina, Standard Metropolitan Statistical Area; (5) most of Franklin County, Massachusetts; (6) most of Georgetown County, South Carolina.

Part of the sample in each site comprises families who are participating in the experimental phase of the Health Insurance Study (HIS), a social experiment in health care financing. Participants in the Study have been randomly assigned to one of 14 experimental health insurance plans that differ in the amount they reimburse families for medical expenditures. In addition, a portion of the Seattle, Washington, sample has been assigned to the Group Health Cooperative of Puget Sound, a well-established prepaid group practice.¹

The other part of the sample in each site comprises a comparable group of families who are not participating in the experimental insurance plans, but hold their own health insurance coverage. These are the control families. Some of the control families in Seattle, Washington, are also enrolled in the Group Health Cooperative. The number of experimental and control families in each geographic area is shown in Table 1.

Sample families are representative of families in each area, with certain exceptions: (1) Families with incomes of less than one and one-half times the poverty line are slightly oversampled. (2) Families whose heads were 62 years of age or older at the time of enrollment are excluded. (3) Veterans with service-connected disabilities are excluded, as are active duty military personnel and their dependents, military retirees with access to military medical care facilities, individuals eligible for either the Medicare program or the Supplemental Security Income program (AFDC recipients, however, are included), and families with incomes of \$25,000 (1973 dollars) per year or more. The characteristics of the 3218 families in the sample are given in Appendix Table A.1.

¹The Health Insurance Study is described in detail in Newhouse, 1974.

Table 1
NUMBER OF FAMILIES IN THE STUDY SAMPLE, BY SITE

Site	Number of Families	
	Experimental Families	Control Families
Dayton, Ohio	404	100
Seattle, Washington		
Reimbursement insurance	491	111
Group Health Cooperative	420	289
Fitchburg/Franklin County, Mass.	554	200
Charleston/Georgetown County, S. Carolina	548 ^a	414 ^a

^aIncludes 313 families who were part of both the experimental and non-experimental sample.

DATA COLLECTION DESIGN

Consumer Questionnaires

Measures of families' knowledge about their insurance coverage were collected in two interviews. The first interview determined if the families knew whether they were insured and, if so, if they knew what services their insurance covered. The second interview was designed to measure their knowledge of the benefits that the insurance would pay for a variety of services.

The first interview, called the baseline interview, was administered in-person to heads of families.² It was conducted with all the families in the sample before they were enrolled in the experimental phase of the Health Insurance Study. Control families also received a baseline interview. The insurance questions in the baseline interview asked families whether they had private health insurance coverage (Medicare, Medicaid, and other welfare were not included), the source of each health insurance policy, and whether each policy provided specified services. The questions about covered services were experimentally varied to test the effect of detailed questioning on knowledge scores. We will say more about this variation in Section IV.

²The baseline interview in Dayton, Ohio, did not include questions about services covered.

Sets I and II of the baseline questionnaire are reproduced in Appendix B.

The second questionnaire was a self-administered form designed to elicit information about the families' knowledge of the benefits their insurance would pay for specified services. Experimental families received the second questionnaire after they had enrolled in the experimental insurance plans, and were asked to answer the questions about their new experimental coverage. Control families also received this second questionnaire, and they responded to questions about their current insurance coverage. Four versions of the questionnaire were administered: one for experimental families with reimbursement insurance; one for experimental families in the Group Health Cooperative; one for control families with reimbursement insurance (including public insurance such as Medicaid); and one for control families in the Group Health Cooperative. The four versions of this questionnaire, which are reproduced in Appendix B, were required because of differences between typical private insurance plans and the experimental plans and differences between reimbursement insurance and the prepaid group practice. The questions were designed to measure consumers' understanding of their insurance benefits for first-dollar expenditures on each of five services and to measure their knowledge of coverage for large medical bills. Control families were also asked to list the name of their insurance plan or plans and the employer or carrier providing coverage.

Ninety-one percent of the experimental families returned the second questionnaire, and 79 percent of the control families responded. The number of families in each site responding to the self-administered questionnaire is given in Appendix Tables A.2 and A.3.

Insurance Verification

Contacts were made with insurance carriers or employers to verify that coverage reported by families was in effect and to obtain detailed information about the benefits of the plans.

We attempted to verify the baseline insurance coverage of about 84 percent of families (2280 families) in the study sample in Seattle, Massachusetts, and South Carolina; budgetary limitations prevented us from a complete verification. We did not attempt to verify coverage of the Dayton sample because the baseline questions asked of Dayton families differed from those asked in the other sites.

Each employer or carrier named by families in the baseline verification sample was provided with a self-administered insurance verification questionnaire. Questionnaires were also given to employers of

all family members to see if the family had insurance that was not reported during the interview. The name of the primary insured or employee was pre-entered on the questionnaire. The employer or carrier was asked to verify that the primary insured was covered, to list all other family members covered by the policy, to report the total premium, and to report the primary insured's share of the premium. If the insurance was provided through an employer group, the employer was asked to report whether employees had a choice of insurance plans. The employers or carriers were also asked to provide brochures or pamphlets describing in detail the benefits of the plan.

We were able to obtain brochures describing the insurance, or to verify that the family was uninsured, for 65 percent (1481) of the families (see Appendix Table A.4). The usual reason for failure to verify insurance was the employer's failure to return the requested brochure. Because it is unlikely that the employer's failure to respond is related to participants' knowledge, the values given below probably have not been seriously biased by our inability to verify insurance.

We verified the insurance coverage of the control families that was in force at the time of the self-administered questionnaire by conducting telephone interviews with employers or carriers. The interviewer verified that the person of interest had the reported coverage at the time of the second interview and had collected information on the date that the benefits became effective. Brochures describing benefits of the plan were again requested. Medicare or Medicaid coverage, if mentioned by respondents, was also verified for this phase of the project. However, we did not make any effort to find other policies not mentioned by the respondent during this phase of our data collection. Brochures were obtained for 82 percent of the control families reporting insurance coverage at the time of this second questionnaire survey. The number of control families with verified insurance in each site is given in Appendix Table A.2.

Insurance Abstraction

Details of the coverage outlined in the policy brochures were abstracted by the HIS staff onto a uniform insurance abstraction coding form. The form indicated what services were covered by the plan and contained enough information to determine what the plan would pay for any medical service.

METHOD OF ANALYSIS

Measuring Consumer Knowledge

Families' knowledge of their insurance coverage was measured by comparing the responses given in the two questionnaires with the information we abstracted onto the insurance coding form. For each question, a family is given a zero or one value denoting an "incorrect" and "correct" response, respectively. Responses of "don't know" are scored as incorrect.

Baseline questions about covered services were asked about each policy, but for our analysis, we have aggregated across all policies for families who had more than one. For example, if a family reported that any policy provided coverage for hospital care, they were scored as having correctly answered the question about hospital coverage if insurance records indicated that hospital coverage was provided by any of the family's policies. For 9 percent of the verified sample, we were not able to obtain details of all of the insurance policies that the family held at the time of baseline. These families are included in the analysis by examining only the answers they gave about the verified insurance.³

Families' answers to the self-administered questionnaire were scored as correct if they were within a specified tolerance range of the true response; e.g., an answer was considered correct if the share of the bill that the family reported it would pay was within 10 percentage points of the true share. Similar results were obtained if only exact answers were considered correct. Moreover, allowing a 10-percentage point tolerance avoided our having to score answers as incorrect if the family rounded to the nearest dollar.

The questionnaires for participants in the Group Health Cooperative did not specify a dollar amount of medical bills because there is no charge at the time of service. However, to achieve compatibility in scoring, we treated families in the Group Health Cooperative as having given a correct answer if their reported hospital and initial psychiatric bill was less than \$10 and if their physician and drug bill was less than \$1. The control families in the Group Health Cooperative are required to make a copayment for psychiatric visits after the 10th visit. The copayment ranges from \$5 to \$8. Answers given by the Group Health control families about how much they would pay for the 21st psychiatric

³Analyses were also performed excluding these families; the results did not differ from those to be reported.

visit were scored as correct if they were within \$10 of the true copayment.⁴

Adjusted Knowledge Scores

One of the questions we want to address is whether knowledge scores, i.e., the percentage of families giving the correct answer, vary according to the type of insurance coverage. In making comparisons among the various groups, we want to control for differences in family characteristics that may affect knowledge.⁵ Our procedure is to use linear regression to fit a linear probability function explaining the probability that a family gives a correct answer. We then present knowledge scores (or the percentage of families correctly responding) that are adjusted for differences in other characteristics among families with different types of insurance. The discriminant function approximations to the conditional logit model for the binary knowledge scores can be obtained by a transformation of the coefficients estimated from our linear probability regression. We have presented the coefficients of the linear probability function rather than the conditional logit model because the former are easily interpreted.

Formally, we fit the following model:

$$Y = \delta_j P_j + \beta X + e,$$

where Y = 0,1 variable indicating whether the family's response is correct,

P_j = indicator variables for the type of insurance plan,

X = vector of other family characteristics,

e = error term,

δ_j, β = parameters to be estimated.

An example of the "type of insurance plan" indicator variables, represented by P_j , is as follows: P_1 is 1 if the plan pays for the service in full; P_2 is 1 if the plan pays a part share for the service; P_3 is 1 if the plan pays nothing for the service.

The variables in the vector of other characteristics, X , are measured

⁴About half of the Group Health control families receiving a score of "correct" for the repeat psychiatric visit answered that they would pay nothing; the other half of the families receiving a score of "correct" recognized that they would have a small copayment.

⁵There are differences in demographic characteristics among (a) the sample with verified baseline insurance coverage, (b) the control families with verified coverage at the postenrollment interview, and (c) the experimental families. These differences arise primarily because of differences among the samples in the number of respondents in each geographic area and because there are differences among sites in the distribution of demographic characteristics. However, within sites we did not find differences between responders and nonresponders to any of the questionnaires.

as the family's deviation from the mean value of the variable for our entire study sample. Thus, the coefficients on the P_j indicator variables reflect the probabilities of giving a correct answer for a typical family, one with average characteristics. The coefficient δ_j we call the adjusted knowledge score for families with insurance plan type j .

Definitions of the variables included in the vector of characteristics, X , and their mean values for the entire study sample are shown in Table 2. Education, race, income, and prior use of health services were collected from families in the baseline interview. The other measures were obtained from employers and carriers as part of insurance verification.

Table 2
DEFINITIONS AND MEANS OF VARIABLES USED IN REGRESSIONS^a

Variable	Definition	Mean
Education of Head	Education of the family head	12.45
Prior Use for:		
Hospital	Dummy = 1 if any family member hospitalized past year	0.25
Physician	Ln (family physician expenses past year +1)	4.88
Drug	Ln (family drug expenses past year +1)	3.46
Dental	Ln (family dental expenses past year +1)	3.50
Choice	Dummy = 1 if employer group offers choice of plans or if privately purchased insurance	0.29 ^b
Covered 2-5 yr	Held coverage 2 to 5 years	(c)
Covered 5+ yr.	Held coverage 5+ years	(d)
Race	Dummy = 1 if nonwhite	0.13
Ln income	Ln (family income)	9.4

^aMeans are for total study sample except as noted.

^bMean for families with verified baseline coverage.

^cMedical coverage = 0.26; dental coverage = 0.09. Mean for control families with verified postenrollment coverage.

^dMedical coverage = 0.49; not applicable for dental coverage. Mean for control families with verified postenrollment coverage.

III. FAMILIES' KNOWLEDGE OF WHETHER THEY ARE INSURED

Our first question is, Do families know whether they have health insurance coverage? To answer this question, we compare their answers in the baseline interview with the information collected from employers and carriers.

Despite a small survey underreporting of health insurance coverage, families are quite accurate about whether they are privately insured.¹ A cross-classification of the baseline survey responses with the verification data is shown in Table 3. The top half of the table gives the unweighted cross-classification of responses and insurance record information for the 1481 families whose insurance coverage was verified. Insurance verification rates were higher for families reporting being uninsured than for families reporting having insurance (see Appendix Table A.2). Therefore, the unweighted cross-classification includes a higher percentage of families reporting no insurance than was actually obtained in the baseline interview. The bottom half of the table weights the observations for the differential response rates, so that the percentage of survey responses of having insurance corresponds to that obtained in the interview.

About one-third of the families who reported that they were uninsured were found to have had insurance at the time of the baseline interview, whereas only 3 percent of those who said they were covered turned out not to be, according to records. This results in a small net survey underreporting of being insured; in the weighted data, the difference between the percentage insured according to the survey and those verified as being insured is 4 percent. However, for the most part, families were accurate in reporting whether or not they were insured. More than 90 percent of the families answered correctly.

¹The report of having insurance refers to private health insurance; Medicare, Medicaid, and other welfare insurance programs are not included.

Table 3
CROSS-CLASSIFICATION OF SURVEY AND VERIFICATION
REPORTS OF HEALTH INSURANCE

Survey Response	Verified Record		Total
	Have Coverage	Do Not Have Coverage	
Percent of Unweighted Cases			
Have coverage	74	2	76
Do not have coverage	8	16	24
Total	82	18	100
Percent of Weighted Cases			
Have coverage	80	2	82
Do not have coverage	6	12	18
Total	86	14	100

N = 1481 families for whom verification reports were available.

IV. FAMILIES' KNOWLEDGE OF SERVICES COVERED BY THEIR INSURANCE

Do families know the specific services for which they are insured? We found that families were accurate in reporting their hospital care coverage but were less knowledgeable about their coverage for outpatient services. Lack of knowledge that outpatient services are covered is more likely among families whose policy includes a deductible than among families whose policies pay benefits for the first dollar expended.

PREVIOUS WORK

Two previous studies have examined consumer knowledge of the scope of services covered by their insurance. The National Center for Health Statistics (1966) compared responses about health insurance coverage collected from families in a self-administered questionnaire with records of Blue Cross-Blue Shield. Phelps (1974), in an unpublished analysis of data collected as part of the Center of Health Administration Studies 1970 survey,¹ compared household respondents' answers about their insurance coverage with records of insurance carriers. Results from these two studies are summarized in Table 4. Both studies found that respondents accurately reported their coverage for hospitalization, but that they substantially underreported their outpatient physician coverage. Phelps also found that a large percentage of respondents were unaware that they had outpatient drug benefits. The reporting of dental benefits was more accurate than the reporting of other outpatient services.

BASELINE MEASURES OF KNOWLEDGE OF SERVICES COVERED

Here we compare answers to the baseline interview questions with information coded from the policy brochures to determine whether families were able to report accurately the services covered by their insurance. Families who reported having private insurance at the base-

¹Charles E. Phelps, "A Simple Test of Self-Reporting Reliability on Insurance Coverage," The Rand Corporation, October 11, 1974.

Table 4
 PERCENTAGE OF INSURED PERSONS AND FAMILIES
 REPORTED AS COVERED FOR VARIOUS SERVICES:
 RESULTS OF PREVIOUS STUDIES

Service	Results of Previous Studies			
	Phelps (1974), Percent of Persons Covered		NCHS (1966), Percent of Families with Blue Coverage	
	Survey	Record	Survey	Record
Hospital	92	94	27	28
Outpatient				
Physician	14	61	6	14
Drug	18	53	—	—
Dental	8	10	—	—

line interview were asked whether the policy provided benefits for each of four services: hospitalization, outpatient physician visits, outpatient prescription drugs, and dental care. The percentage of families reporting that their policy covered each service is compared with the corresponding percentage obtained from insurance records in Table 5. The comparisons are for the 1099 families who reported being insured

Table 5
 PERCENTAGE OF INSURED FAMILIES
 REPORTED AS COVERED FOR VARIOUS
 SERVICES: BASELINE RESULTS

Service	Baseline Results	
	Survey	Record
Hospital	99	100
Outpatient		
Physician	70	92
Drug	55	95
Dental	26	22

Sample Size: 1099 families with reported and verified insurance.

and whose insurance coverage was verified by the carrier or employer. Families who were accurate in reporting that they were insured were also accurate in reporting that their insurance covered hospital care, the service most commonly covered by insurance.² However, these families substantially underreported their outpatient physician and drug coverage. Dental coverage was slightly overreported. These results are similar to the findings of the previous studies.

Are there features of some insurance policies that contribute to families' lack of knowledge of their coverage for outpatient medical services? To investigate this possibility, we assigned families a score of one if they correctly reported whether the service was covered and a score of zero if not. We then regressed these scores on indicator variables for the type of coverage the family had for the service: the prepaid group practice (GHC); reimbursement insurance providing first-dollar benefits for the service; reimbursement insurance requiring an initial deductible; or the service is not covered by the policy. Other variables in the regression include education and race of the family head, family income, and the family's use of health services. Table 6 shows the regression coefficients (multiplied by 100) on indicator variables for the type of coverage for specified services.³ The regression coefficients represent the percentage of families with each type of coverage who gave a correct answer, after adjusting for differences between groups in demographic characteristics.

As Table 6 shows, families enrolled in a prepaid group practice are more likely to know the scope of outpatient services provided to them than families with reimbursement insurance. Among the latter families, those whose policies specify an initial deductible for outpatient medical care are less likely to report that they are covered for physician and drug use than families who have first-dollar benefits for these services.

There are two competing hypotheses to explain why families whose policies include a deductible for outpatient medical services are less likely to report that they are covered for the service. First, underreporting may reflect a true lack of knowledge. Families with deductibles would not receive reimbursement for normal use of outpatient services, since their expenditures would be too small to satisfy their deductible. Because they are not normally reimbursed for outpatient care, they may not be aware that the plan includes outpatient benefits.

²We would find some underreporting of hospital coverage if all families were included in the analysis, because we found that families tended to underreport the fact that they had insurance.

³Coefficients for the other variables are given in Appendix Table A.5.

Table 6
 PERCENTAGE OF INSURED FAMILIES CORRECTLY REPORTING
 COVERAGE OF SPECIFIED SERVICES^a
 (Regression Coefficients $\times 100$)

Service	Percent Correct, by Type of Coverage for Service				Number of Cases			
	GHC (A)	First-Dollar (B)	Initial Deductible (C)	Not Covered (D)	A	B	C	D
Hospital	100	98	98	—	142	860	97	—
Outpatient								
Physician	92	87	61	40	142	178	686	93
Drug	89	76	47	73	142	34	865	58
Dental	—	72	89	82	—	179	40	862 ^b

^aPercents adjusted for difference between groups in demographic characteristics. (See text for explanation.)

^bEighteen families with dental insurance were excluded from the sample because details on the type of coverage were unavailable.

Second, underreporting may result not from lack of knowledge but because of the way in which questions are asked. The standard questioning method is to ask whether the plan would pay benefits for the outpatient service. A family's negative response to this question might reflect its expectation that its outpatient expenditures will not be large enough to satisfy the deductible rather than a lack of knowledge about the services covered.

To explore the competing hypotheses, the questioning method was experimentally varied in the baseline interview.

LACK OF KNOWLEDGE VS. EFFECTS OF QUESTIONING METHODS

The baseline interview used two methods of questioning families about whether each of the services was covered by their insurance policies. One method (Set I, Appendix B), used for a random half of the sample, asked whether the plan paid benefits for each service. The questions were similar to those used in previous studies. The other method (Set II, Appendix B) added a follow-up probe about whether the plan would provide benefits if the family's expenditures were sufficient-

ly large. The second method was designed to distinguish families who believed that the plan would not reimburse them for their expenditures because of the deductible from families who believed that the service was not covered at all.

Among families whose policies included deductibles, the probe method of questioning (Set II in the baseline interview) elicited a higher proportion of correct responses about the coverage of outpatient services than the standard, single-question method (Table 7). However, the effect of the questioning method is not significant enough to explain the lower level of awareness among families with deductibles. Under the follow-up method, only 65 percent of families with deductibles for outpatient physician care reported that the service was covered compared with 87 percent of families with first-dollar coverage for physician visits. Similarly, only 50 percent of the families who had deductibles for drug benefits reported coverage compared with 78 percent of families who had first-dollar coverage for drug benefits. These are significant differences.

Table 7
PERCENTAGE OF FAMILIES WITH AN INITIAL DEDUCTIBLE
FOR A SERVICE WHO CORRECTLY REPORTED
COVERAGE OF THE SERVICE^a

Service	Percent Correct		Number of Cases	
	Single- Question Method	Follow-up Method	Single- Question Method	Follow-up Method
Hospital	98	98	42	55
Outpatient				
Physician	57	64*	276	410
Drug	42	50*	379	486
Dental	87	93	26	14

^aPercents adjusted for difference between groups in demographic characteristics. (See text for explanation.)

* Significantly different, $p < 0.05$.

We conclude that the standard, single-question method does contribute to the underreporting of outpatient medical coverage by families whose policies include deductibles. However, most of the underreporting appears to be a true lack of knowledge that outpatient medical services are covered.

V. KNOWLEDGE OF AMOUNT OF INSURANCE BENEFITS

This section describes consumers' knowledge of the amount of their insurance benefits and investigates whether simplifying the benefit structure and educating consumers could be effective in upgrading knowledge. We find that accuracy increases when insurance benefits are uniform and include only a few plan parameters. Plans that include a combination of deductibles, coinsurance rates, and/or fee schedules are less likely to be understood than plans that pay in full or are subject only to a deductible. Families whose plan specifies one coinsurance rate that applies to all services can better describe their benefits for a variety of services than families whose plan has different coinsurance rates for different services.

Knowledge levels increase as exposure to information increases, suggesting that consumer education could be helpful. Also, the higher knowledge scores among the experimental families, who received both in-person and simple written explanations of their benefits, than among the control families indicate that consumer education may be effective.

The data presented in this section are from the self-administered coverage questionnaires. Families' answers about how much they would pay out of pocket for hypothetical medical bills are compared with the information coded from policy brochures. To investigate factors that affect knowledge, we assign families a zero or one score for each of the ten hypothetical bills. A score of one is given if the families' reported share of the hypothetical bill was within 10 percentage points of the true share; a score of zero is given otherwise. These scores are regressed on indicators for the type of insurance and other family characteristics.

The section is organized in four parts: First, we describe the existing level of knowledge by looking at the knowledge scores for the control families with reimbursement insurance. We also investigate factors that explain differences in knowledge across families. Second, we investigate factors that affect knowledge by analyzing the knowledge scores for the experimental families. Third, we compare knowledge among the experimental families with knowledge among the control families. Fourth, we examine the knowledgeability of families in the prepaid group practice and compare their scores with those of families having reimbursement insurance.

KNOWLEDGE AMONG CONTROL FAMILIES WITH REIMBURSEMENT INSURANCE

The control families' estimates of what they would pay out of pocket for ten medical and dental bills were in close accord with what their insurance policies specified. Table 8 shows the share (in percent) that control families with reimbursement insurance reported they would pay out of pocket, the actual share as determined from information in policy brochures, and the difference between the reported share and the actual share. The means are the average for all families who gave an answer to the specific question.¹ The last column in Table 8 shows that about 95 percent of families provided answers to questions about hospital, physician, drug, and dental bills. Families were more uncertain about their plan benefits for psychiatric care, as shown by the higher percentage of respondents not answering questions about psychiatric bills.

Although the answers that families gave about how much they would pay for the hypothetical bills differ by a statistically significant amount from the correct answers, the differences are small; families' reports of their own share of the bill differ by less than 10 percentage points, on average, from the true answer. This suggests that decisions about the use of health services may be based on reasonably accurate judgments about out-of-pocket costs. However, this finding does not necessarily mean that families are knowledgeable about the details of their insurance policies, particularly concerning outpatient care. For most families, the "correct" answer to the hypothetical questions about outpatient expenditures was that they would pay the full share. And most families reported that they would pay the full share. However, as discussed in the previous section, this response may be based on the incorrect belief that a service is not covered rather than on accurate information about deductibles for outpatient care.²

To better assess how much families know about the details of plan benefits, we look at whether families who, according to records, would receive some reimbursement for the expenditure are able to report their own share of the bill correctly. Table 9 gives the (adjusted) percentage of families who correctly reported their out-of-pocket payment for each of the hypothetical bills according to (a) whether the insurance policy

¹The means are simple averages of all respondents. Few differences were found between sites; responses by site are given in Appendix Tables A.6 and A.7.

²Most families with outpatient coverage are required to satisfy a deductible. Our intention was to measure knowledge of coverage once the deductible was satisfied by including the questions about outpatient bills after the user had incurred a large hospital bill. However, most families also have full coverage for hospital care, and so the large hospital expenditure does not satisfy their deductible for outpatient care.

Table 8
MEAN PERCEIVED AND ACTUAL OWN-SHARE OF TEN MEDICAL
AND DENTAL BILLS: CONTROL FAMILIES WITH
REIMBURSEMENT INSURANCE

Expenditure	Perceived Share (Percent)	Actual Share (Percent)	Difference	Percent Not Answering
Own Share of Initial Bill				
\$100 hospital	16.6	7.3	9.3 (1.6)	5
\$ 10 doctor	80.7	88.1	-7.4 (1.6)	4
\$ 10 prescription	81.6	89.2	-7.5 (1.7)	5
\$100 psychiatric	73.6	83.7	-10.1 (2.7)	10
\$ 10 dental	87.8	88.6	-0.8 (1.6)	4
Own Share After a \$4000 Hospital Bill				
\$100 hospital	13.6	9.1	4.5 (2.0)	7
\$ 10 doctor	74.9	79.1	-4.1 (2.2)	6
\$ 10 prescription	78.0	80.9	-2.9 (2.2)	6
\$100 psychiatric	70.3	81.2	-10.9 (2.8)	11
\$ 10 dental	91.3	87.6	3.8 (1.6)	5

NOTE: Standard errors are shown in parentheses.

would pay the full share of the hypothetical bill or (b) only part of it; (c) whether the policy covers the service but would not reimburse for the hypothetical bill; or (d) whether the policy does not cover the service. The classification depends on how much the plan will pay for each hypothetical bill and so may vary from service to service for any one insurance plan. The adjusted percentages shown in the table are regression coefficients (multiplied by 100) on indicator variables for the share that the plan would pay obtained by fitting a linear probability function to the binary scores each family was assigned.³

³The coefficients on the other variables in the regression are shown in Table 10.

Table 9
 PERCENTAGE OF CONTROL FAMILIES WITH REIMBURSEMENT
 INSURANCE WHO CORRECTLY REPORTED OUT-OF-POCKET
 PAYMENTS FOR MEDICAL BILLS^a

Expenditure	Percent Correct, by Share That Plan Pays				Sample Sizes			
	100% (A)	Part (B)	0% (C)	Not Covered (D)	A	B	C	D
Initial Expenditure								
\$100 hospital	75	36	72	—	332	59	6	—
\$ 10 doctor	—	73	—	84	44	4	327	22
\$ 10 drug	—	64	—	81	36	8	332	21
\$100 psychiatric	49	51	54	57	56	33	204	104
\$ 10 dental	51	21	84	91	34	11	22	303
Expenditure After a \$4000 Hospital Bill								
\$100 hospital	74	37	0 ^b	—	316	55	26	—
\$ 10 doctor	59	24	77	82	56	31	288	22
\$ 10 drug	54	25	78	79	44	38	294	21
\$100 psychiatric	32	23	56	54	56	58	179	104
\$ 10 dental	40	5	91	92	34	17	16	303

^aPercents adjusted for differences between groups in other characteristics. (See text for explanation.) An answer is considered to be correct if the percentage that the family reports it would pay is within 10 percentage points of the actual share.

^bThe families who receive no reimbursement for the \$100 hospital bill after incurring a previous \$4000 bill have exceeded plan maximums. Apparently families do not have knowledge of these limits.

Families were more likely to give a correct response if they were responsible for the full share of the bill than if their insurance would pay some or all of the hypothetical expenditure. This result, however, includes some families who were right for the wrong reason—i.e., families who believed, incorrectly, that the service was not covered.

Families were also more likely to describe their insurance benefits correctly for initial expenditures on outpatient services than for benefits for outpatient expenditures incurred after a larger hospital bill. Most families with outpatient coverage are required to satisfy a deductible. Out-of-pocket payments for a \$4000 hospital bill would satisfy the deductible for about 10 percent of the families. These families would then be reimbursed for subsequent outpatient expenditures. Some of the families incorrectly believed that they did not have insurance coverage for outpatient services. As a result, they correctly responded that they would have to pay the full share of the initial expenditure but were

Table 10
 RELATIONSHIP OF ABILITY AND EXPOSURE MEASURES TO PROBABILITY
 THAT CONTROL FAMILIES CORRECTLY REPORT THEIR BENEFITS
 (Regression Coefficients $\times 100$)

Expenditure	Independent Variables					Education of Family Head (years)	Psychiatric Same ^b
	Choice	Dayton ^a	Covered 2-5 Yr	Covered 5+ Yr	Use		
Initial Expenditure							
\$100 hospital	7.1	7.6	3.7	9.1*	5.1	1.4**	—
\$ 10 doctor	3.3	9.9*	4.5	7.9*	3.0**	0.3	—
\$ 10 drug	5.0	3.3	-1.9	6.8	1.0	1.2**	—
\$100 psychiatric	-1.1	12.8*	-1.1	12.0*	-1.5	0.4	43.7**
\$ 10 dental	9.3*	1.9	-1.7	1.9	—	2.1**	—
Expenditure After a							
\$4000 Hospital Bill							
\$100 hospital	12.6**	13.5**	6.0	11.3**	3.3	1.2**	—
\$ 10 doctor	11.5**	12.6**	0.7	19.1**	3.1**	0.5	—
\$ 10 drug	9.6*	8.7	-4.4	11.4**	0.8	0.9*	—
\$100 psychiatric	0.1	15.2**	11.7	9.7*	-1.9	0.7	16.9**
\$ 10 dental	6.1*	4.1	5.5	—	-0.2	1.6**	—

^aThe choice variable is missing for the Dayton sample; this is a dummy variable that takes the value 1 if it is in the Dayton sample and reflects the average effect of choice for the Dayton respondents.

^bThis variable, used to explain knowledge of psychiatric benefits, is a measure of plan complexity.

*p < 0.10.

**p < 0.05.

incorrect in their answer about expenditures subsequent to a hospital bill. Thus, the decrease in the percentage of families who correctly reported their own cost of outpatient expenditures after a hospital bill, relative to the percentage who were correct about their own share of an initial expenditure, also signifies that some families' correct responses about the initial expenditure were correct because they incorrectly believed they were not covered for outpatient care.

A comparison of knowledge among families who receive full reimbursement for an expenditure and those who receive only a partial reimbursement shows that knowledge is affected by plan complexity. The comparison allows us to examine the effects of the amount of information the family has to know and use to answer correctly the question we posed. If the plan pays the full share of the family's first-dollar (initial) expenditure for a service, the only information the family needs is that the service is fully covered; there are no deductibles, coinsurance rates, or binding fee schedules for the family to think about in answering the question about that service. For the set of hypothetical bills subsequent to a large hospital expenditure, a plan that reimburses 100 percent may include a deductible, but again there are no coinsurance rates or fee-schedules applicable to the expenditure. On the other hand, a plan that reimburses in part may include a combination of deductibles, coinsurance rates, and fee-schedules that the family must know about in order to give a correct answer to the question. Thus, a plan that pays only a partial share of the bill has a more complex benefit structure, at least in relation to the hypothetical expenditure, than a plan that reimburses in full.

Complexity of plan is strongly related to the probability that the family is knowledgeable about the benefits. Seventy-five percent of families correctly answered questions about their out-of-pocket payments for hospital care if the plan would pay in full. However, the probability of correctly answering falls by one-half if the plan is more complex, i.e., if it would reimburse only part of the expenditure (Table 9). More than 50 percent of the families who would receive full reimbursement for physician and drug expenditures after an initial \$4000 hospital bill correctly reported their benefits for these hypothetical expenditures. Again, however, knowledge falls by half for more complex policies.⁴ Knowledge of dental and psychiatric benefits is slightly less than knowledge of the other services. However, the relationship between complexity and knowledge is also evidenced for three of the four hypothetical psychiatric and dental expenditures.

⁴Knowledge scores shown for physician and drug expenditures combine families who would receive full reimbursement and those who would receive partial reimbursement; fewer than 10 families would receive only a partial reimbursement for the initial expenditures.

In addition to complexity of plan, there are two other factors that we expect to affect knowledge. First, families must be exposed to the information. Second, once exposed, the family members must be able to assimilate the information, retain it, and apply it in making calculations about expenditures for health services. To determine whether these factors do affect knowledge, we included proxy measures for exposure and ability as additional independent variables in fitting the linear regression for the probability of a correct answer. The regression coefficients for the exposure and ability measures are given in Table 10. (Formal definitions of the independent variables are given in Section II.)

Families who have been offered a choice of insurance plans by their employer group or who have chosen to purchase private supplementary insurance are more likely to have been exposed to detailed information about their insurance in order to make a choice than families who do not have a choice. In the Health Insurance Study, choice did increase the consumers' knowledge, particularly about the more complicated hypothetical bills that involved an initial \$4000 hospital expenditure.

The longer the family has held its insurance policy the more experience it is likely to have had. On the other hand, the longer it has held the policy, the more distant it is from the choice of insurance plan and any information gathered to make a choice. However, we find that knowledge increases with the time covered by the plan. Families who have had their policies for more than 5 years have a significantly higher probability of correctly reporting their benefits than families who have had them for only 1 or 2 years (the omitted classification).

We expected that families who have had extensive prior use of medical services would have had more recent exposure to their benefits than those who have not, and hence that they would be more knowledgeable. However, prior use is significantly related only to knowledge of physician service benefits.⁵

The education of the family head is a proxy for ability to understand and use the information about insurance benefits. It is significantly related to the family's knowledge of its benefits. In regressions not reported, we also included race and family income as independent variables. On theoretical grounds these are not as good proxy measures for either ability or exposure as the other variables, and, in fact, neither

⁵Prior use is measured as utilization in the year preceding the baseline interview. There were varying lapses in time between this interview and the self-administered questionnaire concerning the extent of benefits (see Section II). For some families, our prior-use measure may have been taken several years before they were asked to complete the self-administered questionnaire.

race nor income was significant after controlling for the variables shown.

The "psychiatric same" variable, used to explain knowledge of psychiatric benefits, is a measure of plan complexity. It is a dummy variable that takes the value 1 if the plan would pay the same share of both the hypothetical psychiatric bill and the physician bill. A value of 1 indicates uniformity of benefits for these two services and so reflects a simple benefit structure. As expected, if psychiatric coverage is the same as coverage for other physician services, families are much more apt to know their psychiatric benefits.

The three concepts of complexity of benefit structure, exposure to information about insurance benefits, and ability to understand and use this information are all related to families' knowledge of their insurance. The significance of the exposure measures suggests that consumer education could be effective in improving knowledge. The knowledge differences found between families whose plans reimbursed in full and those whose plans paid only part of the bill suggest that simplifying benefit structures would also improve knowledge. For more evidence on how the complexity of the benefit structure affects consumer knowledge, we turn to an analysis of family responses in the experimental plans.

KNOWLEDGE AMONG EXPERIMENTAL FAMILIES WITH REIMBURSEMENT INSURANCE

Families participating in the experimental phase of the Health Insurance Study are assigned to one of 14 different insurance plans that vary the share of the bill that the family has to pay for their medical expenditures. For our purposes, these 14 plans can be grouped into four of increasing complexity. One provides free care to the family. Nine include a single coinsurance rate that applies to all services—either 25 percent, 50 percent, or 95 percent. These nine single-coinsurance-rate plans have a ceiling on annual out-of-pocket expenditures that varies with family income to a maximum of \$1000. Above the limit, all care is free. Three plans have a 50-percent coinsurance for dental and outpatient psychiatric services and a 25-percent coinsurance for other services, the 25-50 plan. These plans also have an annual income-related maximum on out-of-pocket expenditures. One plan—the ID plan—has a 95-percent coinsurance for outpatient services but hospital care is fully covered. This plan includes a \$150 annual out-of-pocket limit per individual (up to \$450 per family) for nonhospital services.

Families with free coverage or with a single coinsurance rate appli-

cable to all services are more likely to know how much they would pay for the initial medical and dental bills than families on the other two plans (Table 11). Uniformity of benefits across services apparently leads to increased consumer knowledge.

The hypothetical hospital bill of \$4000 was chosen to satisfy the annual out-of-pocket limit for families in all plans but the ID plan; hospital care is free in the ID plan. To answer the five hypothetical questions about expenditures after a \$4000 hospital bill, families in the free plan need only know that all care is fully covered. In the other plans, however, families must know the correct coinsurance for initial care, be able to calculate how much their out-of-pocket payment would be, determine if it exceeds their plan maximum, and know that care is free above the maximum. They have to know about all provisions of the plan. In view of the earlier evidence, it is not surprising to find that knowledge of their own-share payment after a \$4000 hospital bill falls as the number of parameters in the plan increases (Table 11).

Proxy measures for the other two concepts—exposure to information and ability to understand it—are also significantly related to the probability that experimental families correctly describe their benefits

Table 11
PERCENTAGE OF EXPERIMENTAL FAMILIES
CORRECTLY REPORTING OUT-OF-POCKET
PAYMENTS FOR MEDICAL BILLS^a

Expenditure	Free Plan	Single Coinsurance Plan	25-50 Plan	ID Plan
Initial Expenditure				
\$100 hospital	87	81*	84	66*
\$ 10 doctor	86	84	74*	81*
\$ 10 drug	85	82	74*	69*
\$100 psychiatric	81	81	67*	61*
\$ 10 dental	85	83	82	80*
Expenditures After a \$4000 Hospital Bill				
\$100 hospital	87	74*	67*	83
\$ 10 doctor	86	72*	66*	43*
\$ 10 drug	85	75*	69*	45*
\$100 psychiatric	83	71*	64*	37*
\$ 10 dental	84	71*	65*	46*

^aCoefficients on plan indicator variables in a linear probability function (see text).

* Significantly different from free plan, $p < 0.05$.

(Table 12). Ability to understand information, as represented by the education of the family head, is consistently positive and significant. In regressions not reported, we also tested whether education has a larger effect on knowledge if the plan benefits are complex than if the benefits are simple. We did not find consistent support for the hypothesis that knowledge differences among families with different levels of education increase as plan complexity increases. The interaction of education and type of experimental plan was not significant in explaining knowledge about out-of-pocket costs for initial expenditures, nor were the signs of the coefficients consistent with the hypothesis. However, among families in the single-coinsurance plans, education had a larger, though not significantly different, effect on knowledge about out-of-pocket costs for expenditures incurred after a \$4000 hospital bill than among families in the free plan. Increased education was significantly more likely to improve knowledge about the large expenditures among families in the 25-50 plan than among those in the free plan or single-coinsurance plans. However, the trend did not hold for families in the ID plan. The education coefficient for these families was smaller in the regressions for all five of the large medical bills, though not significantly different, than the coefficient for families in the free plan.

Prior use is not a direct measure of exposure to the experimental plan benefits, because it reflects utilization in the year before the family enrolled in the experiment. However, to the extent that families with high utilization prior to enrollment in the experiment also have high utilization after they have enrolled, this variable will represent exposure to experimental plan benefits through postenrollment utilization.⁶ Since prior use is at best an imperfect proxy for utilization under the experimental plan, race and income, which also correlate with utilization, are included as independent variables. Race and income are both significantly related to knowledge.

Blacks and low-income families are known to have used fewer medical services during the first years of the experiment than whites and higher-income families (Newhouse, Manning, Morris, et al., forthcoming). Hence, lesser knowledge among these families may be due to little experience with the insurance plan, giving support to the hypothesis that families learn their benefits by using the medical care system. However, an alternative hypothesis is that the lesser knowledge among black and low-income families inhibited their use of medical care services. If lack of knowledge has led to lower use of services among such families, we would expect them to overestimate their out-of-pocket costs. However, if black low-income families have more variable errors,

⁶Evidence on the size of this relationship is in Duan, Manning, Morris, and Newhouse (forthcoming).

Table 12
RELATIONSHIP OF ABILITY AND EXPOSURE MEASURES TO PROBABILITY
THAT EXPERIMENTAL FAMILIES CORRECTLY REPORT THEIR BENEFITS

Expenditure	Education of Head (years)	Prior Use	Race	Ln Income	Sites		
					S.C. ^a	Seattle	Mass. Dayton
Initial Expenditure							
\$100 hospital	0.7*	1.7	-17.2*	4.0*	-2.9	-2.7	4.1 -4.3
\$ 10 doctor	1.1*	0.9	-15.7*	3.5*	-2.8	4.2	5.9 -3.2
\$ 10 drug	0.8*	0.6	-14.9*	3.6*	-3.2	6.4	3.9 -1.8
\$100 psychiatric	0.4	0.4	-14.0*	3.8*	2.6	5.9	6.8 0.5
\$ 10 dental	1.0*	0.7	-14.9*	3.6*	-1.1	5.5	7.9 -2.9
Expenditure After a \$4000 Hospital Bill							
\$100 hospital	1.0*	1.7	-25.6*	2.0	-1.7	5.8	7.8* 1.0
\$ 10 doctor	1.1*	0.8	-16.8*	1.7	2.9	7.0	10.0* 3.0
\$ 10 drug	1.1*	0.0	-15.8*	1.4	2.5	7.0	10.5* 3.9
\$100 psychiatric	1.0*	0.5	-15.9*	1.3	1.4	4.7	7.1 -0.9
\$ 10 dental	1.2*	0.7	-13.6*	1.4	2.8	6.1	8.9* 0.9

^aOne-third of the South Carolina sample received the self-administered questionnaire at enrollment and two-thirds received it several months after enrollment. The indicator variable in the regression is for the South Carolina subsample receiving the questionnaire at enrollment. The omitted group is the remaining South Carolina sample.

*p < 0.05.

but do not systematically overestimate their own costs, this would support the hypothesis that these families have not learned about the benefits available to them because they have used less medical care.

To explore whether knowledge of benefits affects medical use or whether it is gained through experience with the medical care system, we regressed race, income, and the share of the bill the family would pay on the size of the error families made in estimating their own cost of each initial hypothetical expenditure.

The regression results are shown in Appendix Table A.8. The results do not definitely support either hypothesis. The income elasticity of the demand for medical care has been found to be positive (Newhouse, Manning, Morris, et al., forthcoming), though significantly different from zero only in the Dayton site. If lack of knowledge has inhibited demand among low-income families, we would expect a negative relationship between income and the magnitude of the knowledge errors. However, we find a positive, though not significant, income coefficient. This tends to support the hypothesis that lesser use has resulted in lesser knowledge. However, blacks, who use less medical care than whites, do estimate higher own-costs of care than whites, supporting the alternative hypothesis that lesser knowledge has inhibited use.

We can indirectly test whether families find out about their insurance benefits through use of services by examining variations in knowledge scores by type of service (Table 11). If use promotes knowledge, we would expect families to be more familiar with the services they use frequently, such as doctor and dental care, than with hospital or psychiatric benefits that are used by only a small percentage of families. A competing hypothesis is that families are risk averse and will inform themselves about how their insurance covers services when costs are expected to be high, even though the probability of use may be low. In this case, we would predict that families would know about their hospital benefits because hospital costs are expected to be high, but that they would probably know less about coverage for low-cost services such as prescription drugs. The difference in knowledge between types of services suggests that both factors may be at work. Families are consistently less knowledgeable about benefits for psychiatric care than about those for other services, suggesting that they are not familiar with services they do not use. On the other hand, families tend to be as well informed about hospital care as about other more frequently used services, indicating that they are concerned about their coverage for high-cost services.

With the data now available, we have been unable to provide definitive evidence to support or refute the hypothesis that families learn their insurance benefits as they use medical care. However, the Health Insurance Study data collection methodology is designed to measure

families' knowledge of their experimental insurance coverage at several times during their participation in the experiment. With subsequent data, we will be able to determine whether families who have made frequent use of medical services show greater gains in knowledge of their insurance coverage than families who use fewer services. Future analyses should yield better evidence about the relationship between medical use and knowledge of insurance benefits.

Indicator variables for the sites are included because the length of time that families were enrolled in the experiment before completing the questionnaire varies among the sites. Table 13 shows how long families in each site had been enrolled prior to completing the postenrollment questionnaire. Sites also differed in the staff involved in enrolling families. Thus, if differences among sites were found, they might reflect a variety of factors in addition to length of participation, such as depth and clarity of the explanation about benefits during the enrollment process. However, such effects are generally negligible, suggesting that any learning contributed by sites with more enrollment experience, such as Dayton, was largely offset by other factors.

Table 13
NUMBER OF MONTHS FAMILIES ENROLLED
IN EXPERIMENTAL PLAN BEFORE
COMPLETING POSTENROLLMENT
QUESTIONNAIRE

Site	Range	Mean
Dayton	27-34	29
Seattle	5-17	9
Massachusetts	2-10	4
S. Carolina	1-7 ^a	4
S. Carolina	At enrollment ^b	

^aOne-third of the sample in S. Carolina.

^bTwo-thirds of the sample in S. Carolina.

COMPARISON OF KNOWLEDGE AMONG EXPERIMENTAL AND CONTROL FAMILIES

Although the benefits of the experimental plans vary in degree of complexity, all of them are more readily understood than typical insurance policies; there are no internal limits, no major exclusions and exceptions, and nearly all health services are covered. Prior to enroll-

ment in the study, families were given simple, written explanations of the various benefits as well as in-person explanations of the plans. We therefore expected experimental families to exhibit more knowledge about their plans than control families. The data in Table 14 confirm this expectation.

The entries in Table 14 show the difference between the probability that a family in a given experimental plan correctly reports its own share of a medical bill and the probability that a control family with similar characteristics reports its share correctly. The two linear probability functions, one for control families and one for experimental families, described earlier in this section were used to estimate the probabilities. The predictions were made by using the sample mean of family characteristics. For control families, the prediction is for a family that has held its insurance coverage for less than 2 years; this comparison allows us to adjust for a common learning period between experimental and control families.

Almost all the differences in Table 14 are positive, indicating that families in all the experimental plans are more knowledgeable about their benefits than control families. This supports the notion that simple benefit structures, clearly written materials, and consumer education could help families to understand their insurance. Comparing knowledge scores for control families whose policies reimburse the service in full with knowledge among experimental families, we find that experimental families are more familiar with their benefits. This suggests that educating experimental families had positive effects. However, a typical insurance policy that reimburses one service in full may contain exclusions, restrictions, and different payment rates for other services. Consequently, we cannot assert with certainty that education has had an effect over and above the fairly simple benefit structure in the experimental policies.

KNOWLEDGE SCORES AMONG PERSONS IN A PREPAID GROUP PRACTICE

Families in the prepaid group receive all of their medical care free at the time of use.⁷ About 85 percent of families in the prepaid group plan, experimental and control, understand that a variety of services are free to them. This compares favorably with the understanding exhibited by families who have full reimbursement insurance. Table 15 compares the probability of a correct response about the medical bills

⁷Control families in the prepaid group are required to make a copayment of \$5 to \$8 for psychiatric visits after the 10th visit.

Table 14
 DIFFERENCE BETWEEN KNOWLEDGE SCORES OF EXPERIMENTAL
 AND CONTROL FAMILIES^a

Expenditure	Control Families with 100-Percent Coverage Compared with—				Control Families with Part Coverage Compared with—			
	Free Plan	Coinsurance Plans	25-50 Plan	ID Plan	Free Plan	Coinsurance Plans	25-50 Plan	ID Plan
Initial Expenditure								
\$100 hospital	17*	11*	14*	-4	56*	50*	53*	35*
\$ 10 doctor	18*	16*	6	12	—	—	—	—
\$ 10 drug	24*	21*	13	7	—	—	—	—
\$100 psychiatric	40*	40*	26*	20*	37*	37*	23*	17
\$ 10 dental	33*	31*	30*	28*	64*	62*	61*	59*
Expenditure After a \$4000 Hospital Bill								
\$100 hospital	20*	7	1	17*	57*	44*	38*	54*
\$ 10 doctor	36*	23*	17*	-6	71*	58*	51*	29*
\$ 10 drug	35*	21*	16*	-8	64*	50*	44*	20*
\$100 psychiatric	58*	46*	39*	12	67*	55*	48*	22*
\$ 10 dental	44*	31*	25*	6	80*	67*	61*	42*

^aPredicted difference between the probability that an experimental family gives a correct answer and the probability for a control family with similar characteristics who has had its coverage less than 2 years. Probabilities have been multiplied by 100.

* Significant at $p < 0.05$.

among control families in the Group Health Cooperative, the experimental families in the Group Health Cooperative, and experimental families in the free plan.⁸ The probability shown for a control family in the prepaid group is that predicted for a family who has participated less than 2 years. Experimental families in both the prepaid group and the free plan were enrolled for about 9 months. Only families enrolled in the free plan in Seattle are included in Table 15, so that the comparison of the two groups of experimental families will not reflect any differences between sites in the enrollment process.

Table 15
COMPARISON OF KNOWLEDGE SCORES FOR FAMILIES
IN THE GROUP HEALTH COOPERATIVE AND THOSE
WITH FULL REIMBURSEMENT INSURANCE^a

Expenditure	Group Health, Control	Group Health, Experimental	Free Plan (Seattle)
Initial Visits			
Hospital	90	83	91
Physician	90	84	92
Prescription	89	84	88
Psychiatric	84	84	84
Repeat Visits			
Hospital	90	83	90
Physician	88	83	91
Prescription	90	83	88
Psychiatric	88	84	83

^aCoefficients on plan indicator variables in a linear probability function (see text). Knowledge of dental benefits is not shown because at this time the prepaid group plan did not provide dental benefits.

None of the differences among the groups in Table 15 is significant. There is a tendency for fewer experimental families in the Group Health to report their benefits correctly. However, differences are small and probably reflect the fact that experimental families had been participating less than a year. The overall high knowledge levels among the three groups suggest that if benefits are simply worded, families will understand them.

⁸These are coefficients from fitting a linear probability function to control for differences between groups in other characteristics. The other coefficients are in Appendix Table A.9. For this analysis, the other variables are measured as deviations from the mean values for the total Seattle sample rather than those across all sites.

VI. CONCLUSIONS

Do families know if they have health insurance? Our data show that better than 90 percent of families accurately report whether or not they are insured. However, there is a small underreporting of having insurance.

Do families know what services are covered by their insurance? We find that most insured families correctly report having coverage for hospital care, but that they are less knowledgeable about which outpatient services are covered. About 80 percent of families who have first-dollar coverage for outpatient medical services (physician and drug) know that they are covered. However, if the policy requires that the family satisfy a deductible before receiving benefits for these services, only 50 to 60 percent of families are aware that the services are covered.

Do families know what benefits the plan will pay for covered services? Knowledge of the amount of benefits for covered services varies with the complexity of the benefit structure. Seventy-five percent of control families were able to report how much they would pay for hypothetical hospital expenditures if the plan would reimburse in full. More than half of the control families who would be reimbursed in full for physician or drug expenditures were able to correctly answer questions about their benefits for these services. However, if the plan includes coinsurance or fee-schedules, only half as many families can describe their benefits.

The relationship between plan complexity and consumer knowledge was also found among the experimental families. Families in experimental plans with free care or with a single coinsurance rate that applies to all services have higher knowledge scores than families in plans with different coinsurance rates for different services. We conclude that simplifying benefit structures would improve consumers' knowledge about their insurance.

There is also evidence that consumer education could be effective in improving knowledge about benefits. We find that exposure to information about the insurance plan increases knowledge. Further, we find that families enrolled in the experimental plans had a better understanding of their benefits than families not enrolled in them. We had attempted to educate families in the experimental plans by providing simply written policies and giving them in-person explanations of their benefits.

What are the implications of our results for policymakers? We noted in the introduction that the case for market competition for

allocating medical care resources assumes a well-informed consumer; the case for regulation assumes that consumers do not have sufficient information to make economic choices about their medical care treatment. Our results do not support either extreme view of consumers' knowledge about their health insurance: most families are informed about some aspects of their insurance coverage but many lack detailed knowledge of the benefits. Our results suggest that if competitive approaches are adopted, policymakers may want to encourage efforts at improving knowledge by simplifying benefit structures and through consumer education.

Our intent in this report was to describe consumers' knowledge of their insurance benefits and to investigate ways in which knowledge might be improved. We have not explored in detail the effects of lack of knowledge on consumers' decisions about the use of medical care. We do find that black families estimate higher own-costs of care than whites, which may contribute to a lesser use of medical services by blacks. However, with additional data collected by the Health Insurance Study, we will be better able to determine how imperfect knowledge about benefits affects the use of medical care and whether use of medical care results in improved knowledge of benefits. The Health Insurance Study measures experimental families' knowledge about their insurance at several times during their participation in the experiment and collects information on their use of medical services before and after each knowledge measurement. With these additional data, we will address such questions as: Does lack of knowledge that a service is covered inhibit families from using the service? How do errors about the extent of benefits affect the amount of care used? Do families who use services frequently show greater knowledge gains than families who use fewer services?

APPENDIX A

Table A.1
CHARACTERISTICS OF FAMILIES IN THE
STUDY SAMPLE

Average age of family head (years)	37.6
Average education of family head (years)	12.5
Percent nonwhite	13.1
Average annual income of family (1978\$)	15,000
Average annual nonhospital health expenses of family (1978\$)	589
Number of families	3218

Table A.2
NUMBER OF CONTROL FAMILIES RESPONDING TO SELF-ADMINISTERED
QUESTIONNAIRE: INSURANCE VERIFIED

Control Families	Washington				
	Ohio	Reimburse- ment Insurance	GHC	Mass.	S. Carolina
Sample size	100	111	289	200	414
Number of returned questionnaires	82	52	255	101	394
Number reporting insurance (if questionnaire returned)	67	44	246 ^a	86	321
Number of insurance verifications completed	63	35	233	74	225

^aNumber reporting Group Health Cooperative coverage.

Table A.3
NUMBER OF EXPERIMENTAL FAMILIES RESPONDING
TO SELF-ADMINISTERED QUESTIONNAIRE

Experimental Families	Washington				
	Ohio	Reimburse- ment Insurance	GHC	Mass.	S. Carolina
Sample size	404	491	420	554	548
Number of returned questionnaires	375	446	377	544	466

Table A.4
NUMBER OF FAMILIES IN BASELINE
VERIFICATION SAMPLE WITH VERIFIED
INSURANCE COVERAGE

Sample	Families Reporting Private Insurance	Families Reporting No Insurance
Number in sample	1877	403
Number with insurance coverage verified ^a	1124	357

^aIncludes 137 families for whom verification was obtained for some but not all of the insurance packages reported.

Table A.5
 RELATIONSHIP OF ABILITY AND EXPOSURE
 MEASURES TO PROBABILITY OF CORRECTLY
 REPORTING WHETHER THE SERVICE IS COVERED^a
 (Regression Coefficients × 100)

Service	Independent Variables				
	Choice	Prior Use	Race	Ln Income	Education of Head
Hospital	-1.1	0.5	-6.5*	0.1	0.2*
Outpatient					
Physician	5.5	1.0	-15.7*	-0.1	1.7*
Drug	2.5	3.4	-24.1*	6.7*	0.6
Dental	5.6*	0.3	-2.8	1.9	-0.3

^aDependent variable is 0,1; 1 if correctly reported that service was covered in baseline interview. Coefficients on indicator variables for type of insurance are given in Table 6. Variables are defined in Section II.

*p < 0.05.

Table A.6
 MEAN PERCEIVED AND ACTUAL OWN-SHARE OF INITIAL
 MEDICAL BILLS: CONTROL FAMILIES WITH
 REIMBURSEMENT INSURANCE IN FOUR SITES

Expenditure, by Site ^a	Percent of Bill			Percent of Respondents Not Answering
	Perceived	Actual	Error	
\$100 Hospital				
D	15.7	7.0	8.7	3
S	23.4	22.0	1.4	3
M	13.5	4.2	9.3	6
SC	16.8	6.1	10.7	5
\$10 Physician				
D	95.5	95.2	0.3	0
S	61.4	72.6	-11.2	0
M	80.2	90.1	-9.9	7
SC	79.7	87.9	-8.2	4
\$10 Prescription				
D	84.6	94.0	-9.4	2
S	83.4	90.0	-6.6	0
M	80.2	90.1	-9.9	8
SC	80.9	87.3	-6.4	6
\$100 Psychiatric				
D	88.0	92.3	-4.3	5
S	79.6	86.8	-7.2	3
M	65.7	28.0	37.7	12
SC	70.8	98.9	-28.1	12
\$10 Dental				
D	93.7	90.5	3.2	0
S	69.6	70.3	-0.7	0
M	82.4	83.3	-0.9	5
SC	91.2	93.3	-2.1	5

^aD = Dayton, Ohio (N = 63).

S = Seattle, Washington (N = 35).

M = Fitchburg and Franklin County, Massachusetts (N = 74).

SC = Charleston and Georgetown County, South Carolina (N = 225).

Table A.7
 MEAN PERCEIVED AND ACTUAL OWN-SHARE OF MEDICAL
 BILLS AFTER INCURRING A \$4000 HOSPITAL BILL:
 CONTROL FAMILIES WITH REIMBURSEMENT
 INSURANCE IN FOUR SITES

Expenditure, by Site ^a	Percent of Bill			Percent of Respondents Not Answering
	Perceived	Actual	Error	
\$100 Hospital				
D	15.6	1.9	13.7	2
S	13.1	5.8	7.3	6
M	9.7	1.8	7.9	9
SC	14.3	14.1	0.2	8
\$10 Physician				
D	89.5	84.4	5.1	2
S	42.9	32.9	10.0	0
M	81.2	87.2	-6.0	9
SC	73.9	82.6	-8.7	6
\$10 Prescription				
D	81.5	84.7	-3.2	2
S	71.5	51.5	20.0	3
M	80.1	87.3	-7.2	9
SC	77.4	82.6	-5.2	12
\$100 Psychiatric				
D	81.5	86.9	-5.4	6
S	74.0	79.9	-5.9	3
M	69.4	26.0	43.4	15
SC	66.6	97.4	-30.8	6
\$10 Dental				
D	96.3	87.9	8.4	0
S	74.1	67.9	6.2	0
M	89.0	82.8	6.2	8
SC	93.6	92.8	0.8	7

^aD = Dayton, Ohio (N = 63).

S = Seattle, Washington (N = 35).

M = Fitchburg and Franklin County, Massachusetts (N = 74).

SC = Charleston and Georgetown County, South Carolina (N = 225).

Table A.8
REGRESSION OF RACE, INCOME, AND ACTUAL
COINSURANCE RATE ON ERRORS IN ESTIMATING
OWN-SHARE OF INITIAL MEDICAL BILL:
EXPERIMENTAL FAMILIES

Service	Independent Variables					
	Race	Ln Income	Actual (0)	Coinsurance Rate		
				25	50	95
Hospital	6.0*	0.7	15.2*	2.0	-0.3	-16.8*
Physician	6.6*	1.5	11.1*	5.6*	2.8	-13.5
Prescription	9.2*	1.6	11.2*	5.5*	1.3	-20.3*
Psychiatric	-0.3	2.3*	11.7*	3.9	-4.5	-22.2*
Dental	4.2*	1.7*	13.1*	5.9*	0.4	-13.2*

*p < 0.05

Table A.9
RELATIONSHIP OF ABILITY AND EXPOSURE MEASURES
TO PROBABILITY OF CORRECTLY REPORTING BENEFITS:
FAMILIES IN GROUP HEALTH COOPERATIVE AND SEATTLE
FAMILIES IN FREE EXPERIMENTAL PLAN^a
(Regression Coefficients × 100)

Service	Independent Variables					
	Covered 2-5 Yr ^b	Covered 5+ Yr ^b	Prior Use	Race	Ln Income	Education of Head
Initial Visit						
Hospital	-1.2	-0.3	0.2	-24.1*	2.5	0.5
Physician	0.1	0.9	-0.4	-18.9*	2.1	0.7
Prescription	1.7	1.7	-0.1	-28.7*	1.8	0.6
Psychiatric	5.2	6.9	-0.9	-20.1*	2.5	0.6
Repeat Visit						
Hospital	-0.1	1.0	0.3	-24.3*	2.1	0.7
Physician	1.4	2.5	0.0	-24.4*	2.3	1.0*
Prescription	0.1	0.0	-0.1	-29.2*	2.7	1.0
Psychiatric	0.6	-0.1	-0.9	-15.5*	2.5	0.5

^aDependent variable is 0, 1; 1 if the out-of-pocket payment was correctly reported. Coefficients on indicator variables for the type of insurance coverage are given in Table 15. Variables are defined in Section II.

^bLength of time on plan if a control group family.

*p < 0.05.

APPENDIX B

BASELINE QUESTIONNAIRE: SET I

23. Would this plan cover any part of the hospital charges if someone had to go to the hospital?	<div style="text-align: right;">54/</div> Yes 1 No 2 Don't know D
24. Would this plan cover any part of surgical expenses if someone had to have an operation?	<div style="text-align: right;">55/</div> Yes 1 No 2 Don't know D
25. Would this plan pay any part of a doctor's bills for office visits or home calls?	<div style="text-align: right;">56/</div> Yes 1 No 2 Don't know D
26. Would this plan cover any charges for prescribed medicines taken outside the hospital?	<div style="text-align: right;">57/</div> Yes 1 No 2 Don't know D
27. Would this plan cover any charges for dental care, outside of a hospital?	<div style="text-align: right;">58/</div> Yes 1 No 2 Don't know D
28. Would this plan cover any charges for medical care of vision and hearing, outside of a hospital?	<div style="text-align: right;">59/</div> Yes 1 No 2 Don't know D
<div style="border: 1px solid black; display: inline-block; padding: 5px 15px;">GO TO Q. 37</div>	

CARD 02

BASELINE QUESTIONNAIRE: SET II

<p>29. Would this plan cover any part of hospital charges if someone covered by it had to go to the hospital?</p> <p>DO NOT ASSIST R IN CHECKING FOR INFORMATION.</p> <p>DO <u>NOT</u> PROBE A DON'T KNOW ANSWER.</p>	<p>60/</p> <p>Yes (R knew without checking) (GO TO Q. 31) 1</p> <p>Yes (R checked policy) (GO TO Q. 31) 2</p> <p>No . (R knew without checking) . . . 3</p> <p>No . (R checked policy) 4</p> <p>Don't know D</p>
<p>30. Would this plan pay any part of the hospital charges if (POLICY HOLDER) paid a deductible or some portion of the total cost?</p> <p>DO NOT ASSIST R IN CHECKING FOR INFORMATION.</p> <p>DO <u>NOT</u> PROBE A DON'T KNOW ANSWER.</p>	<p>61/</p> <p>Yes (R knew without checking) . . . 1</p> <p>Yes (R checked policy) 2</p> <p>No . (R knew without checking) . . . 3</p> <p>No . (R checked policy) 4</p> <p>Don't know D</p>
<p>31. Would this plan pay any part of the doctor's bill for office visits or home calls?</p> <p>DO NOT ASSIST R IN CHECKING FOR INFORMATION.</p> <p>DO <u>NOT</u> PROBE A DON'T KNOW ANSWER.</p>	<p>62/</p> <p>Yes (R knew without checking) (GO TO Q. 33) 1</p> <p>Yes (R checked policy) (GO TO Q. 33) 2</p> <p>No . (R knew without checking) . . . 3</p> <p>No . (R checked policy) 4</p> <p>Don't know D</p>
<p>32. Some policies begin to pay for health care only after your total health expenses reach a certain amount. Would this policy start to pay any part of your doctor bills for office visits and home calls when your total costs reach a certain amount?</p> <p>DO NOT ASSIST R IN CHECKING FOR INFORMATION.</p> <p>DO <u>NOT</u> PROBE A DON'T KNOW ANSWER.</p>	<p>63/</p> <p>Yes (R knew without checking) . . . 1</p> <p>Yes (R checked policy) 2</p> <p>No . (R knew without checking) . . . 3</p> <p>No . (R checked policy) 4</p> <p>Don't know D</p>

CARD 02

<p>33. Would this plan cover any charges for prescribed medicine taken outside the hospital?</p> <p>DO NOT ASSIST R IN CHECKING FOR INFORMATION.</p> <p>DO <u>NOT</u> PROBE A DON'T KNOW ANSWER.</p>	<p>64/</p> <p>Yes (R knew without checking) (GO TO Q. 35) 1</p> <p>Yes (R checked policy) (GO TO Q. 35) 2</p> <p>No . (R knew without checking) . . . 3</p> <p>No . (R checked policy) 4</p> <p>Don't know D</p>
<p>34. After all your health expenses reach a certain amount, would this policy then pay any part of the charges for prescribed medicines taken outside the hospital?</p> <p>DO NOT ASSIST R IN CHECKING FOR INFORMATION.</p> <p>DO <u>NOT</u> PROBE A DON'T KNOW ANSWER.</p>	<p>65/</p> <p>Yes (R knew without checking) . . . 1</p> <p>Yes (R checked policy) 2</p> <p>No . (R knew without checking) . . . 3</p> <p>No . (R checked policy) 4</p> <p>Don't know D</p>
<p>35. Would this plan pay any charges for dental care outside of a hospital, for someone covered by it?</p> <p>DO NOT ASSIST R IN CHECKING FOR INFORMATION.</p> <p>DO <u>NOT</u> PROBE A DON'T KNOW ANSWER.</p>	<p>66/</p> <p>Yes (R knew without checking) (GO TO Q. 37) 1</p> <p>Yes (R checked policy) (GO TO Q. 37) 2</p> <p>No . (R knew without checking) . . . 3</p> <p>No . (R checked policy) 4</p> <p>Don't know D</p>
<p>36. After all your health expenses reach a certain amount, would this policy then pay any part of the dental charges, outside of a hospital?</p> <p>DO NOT ASSIST R IN CHECKING FOR INFORMATION.</p> <p>DO <u>NOT</u> PROBE A DON'T KNOW ANSWER.</p>	<p>67/</p> <p>Yes (R knew without checking) . . . 1</p> <p>Yes (R checked policy) 2</p> <p>No . (R knew without checking) . . . 3</p> <p>No . (R checked policy) 4</p> <p>Don't know D</p>

FHPP/E
HIEI #234

**SELF-ADMINISTERED COVERAGE QUESTIONNAIRE:
EXPERIMENTAL FAMILIES WITH REIMBURSEMENT INSURANCE**

The following questions are about your health care coverage under the Family Health Protection Plan. In order to simplify these questions, they are asked about one family member, who was chosen at random. To answer the questions you may wish to check with other people or look up information in the materials about the Family Health Protection Plan.

Each of the following questions asks what you would pay, beyond any amount paid by the Family Health Protection Plan (FHPP), if

needed some kind of medical care. Please express your answers in dollars, not percentages. The dollar charges given may not be reasonable for your area; they have been chosen to make it easier to answer the questionnaire.

1. Suppose your family has used no medical care services for two years. How much money would you pay in each of the following cases, that is, how much money would not be paid by the FHPP? Answer as if each case were your only health care expense.
 - a) The person named above stays one night in a semi-private hospital room. The bill for the room and board is \$100. \$ _____
 - b) The person named above visits the doctor's office because of illness. The bill for this visit is \$10. \$ _____
 - c) The person named above visits a dentist and has his/her teeth cleaned. The bill for this is \$10. \$ _____
 - d) The person named above makes his/her first visit to a psychiatrist for diagnosis. The bill for this is \$100. \$ _____
 - e) The person named above buys a drug prescribed by a doctor. The cost of the drug is \$10. \$ _____
2. Again suppose your family has used no medical care services for two years. Then the person named above needs hospital care which costs \$4,000. How much of the bill would you have to pay, that is, how much money would not be paid by the Family Health Protection Plan? \$ _____
3. Finally, suppose your family has used no medical care services for two years. Then the person named above has a hospital bill of \$4,000. The next week, how much money would you pay in each of the following cases, that is, how much money would not be paid by the FHPP? Answer as if each case were your only health care expense that week.
 - a) The person named above stays one night in a semi-private hospital room. The bill for the room and board is \$100. \$ _____
 - b) The person named above visits the doctor's office because of illness. The bill for this visit is \$10. \$ _____
 - c) The person named above visits a dentist and has his/her teeth cleaned. The bill for this is \$10. \$ _____
 - d) The person named above makes his/her first visit to a psychiatrist for diagnosis. The bill for this is \$100. \$ _____
 - e) The person named above buys a drug prescribed by a doctor. The cost of the drug is \$10. \$ _____

This form was filled out by _____

DATE _____

Please return this form in the enclosed prepaid self-addressed envelope.

THANK YOU.

FFS/C
HIE1 #235SELF-ADMINISTERED COVERAGE QUESTIONNAIRE:
CONTROL FAMILIES WITH REIMBURSEMENT INSURANCE

The following questions are about the total health care coverage given by all insurance policies which cover the person named below. (This family member was chosen at random.) To answer the questions, you may wish to check with other people or look up information in the materials about those policies. If the person named below has no health insurance please check the box at the bottom of the page, sign your name and return as indicated below.

Each of the following questions asks what you think you would pay, beyond any amount paid by insurance, if

needed some kind of medical care.

1. Suppose your family has used no medical care services for two years. What would happen in each of the following cases:
 - a) The person named above has surgery and stays overnight in the hospital. The hospital bill for this is \$100. How much would you pay (that is, how much would not be covered by insurance)? \$ _____
 - b) The person named above visits the doctor's office because of illness. The bill for this visit is \$10. How much would you pay? \$ _____
 - c) The person named above visits a dentist and has his/her teeth cleaned. The bill for this is \$10. How much would you pay? \$ _____
 - d) The person named above makes his/her first visit to a psychiatrist for diagnosis. The bill for this is \$100. How much would you pay? \$ _____
 - e) The person named above fills a prescription for penicillin. The cost of the penicillin is \$10. How much would you pay? \$ _____
2. Now suppose your family has used no medical care services for two years. Then the person named above has a hospital bill of \$4,000. The next week:
 - a) The person named above has surgery and stays overnight in the hospital. The hospital bill for this is \$100. How much would you pay? \$ _____
 - b) The person named above visits the doctor's office because of illness. The bill for this visit is \$10. How much would you pay? \$ _____
 - c) The person named above visits a dentist and has his/her teeth cleaned. The bill for this is \$10. How much would you pay? \$ _____
 - d) The person named above makes his/her first visit to a psychiatrist for diagnosis. The bill for this is \$100. How much would you pay? \$ _____
 - e) The person named above fills a prescription for penicillin. The cost of the penicillin is \$10. How much would you pay? \$ _____
3. Finally, suppose your family has used no medical care services for two years. Then the person named above needs hospital care which costs \$4,000. Is there some amount which you must pay before your insurance will begin to pay any part of the bill?

YES _____	IF YES, _____
NO _____	How much? \$ _____

☐ No health insurance coverage

This form was filled out by _____ DATE _____

Please return this form in the enclosed prepaid self-addressed envelope.

THANK YOU.

GHC/E
HIEI #236

COVERAGE QUESTIONNAIRE: EXPERIMENTAL FAMILIES
IN GROUP HEALTH COOPERATIVE

The following questions are about your health care coverage by the Group Health Cooperative of Puget Sound and the Family Health Protection Plan. In order to simplify these questions, they are asked about one family member, who was chosen at random. To answer the questions you may wish to check with other people or look up information in the materials about the Group Health Cooperative of Puget Sound and the Family Health Protection Plan.

Each of the following questions asks what you would pay, beyond any amount paid by the Family Health Protection Plan (FHPP), if

needed some kind of medical care. Please express your answers in dollars, not percentages. The dollar charges given may not be reasonable for your area; they have been chosen to make it easier to answer the questionnaire.

1. Suppose your family has used no medical care services for two years. How much money would you pay in each of the following cases? Answer as if each case were your only health care expense.
 - a) The person named above spends one night in a semi-private room at a Group Health hospital. \$ _____
 - b) The person named above visits a doctor at Group Health because of illness. \$ _____
 - c) The person named above visits a dentist and has his/her teeth cleaned. The bill for this is \$10. \$ _____
 - d) The person named above makes his/her first visit to a psychiatrist at Group Health for diagnosis. \$ _____
 - e) The person named above has a prescription fill at a Group Health pharmacy for a drug prescribed by a doctor. \$ _____
2. Suppose the person named above has recently spent two weeks in a Group Health hospital. If that person has to go back to the hospital for one night, how much money would you pay for a semi-private room? \$ _____
3. Suppose the person named above has visited the doctor at Group Health 20 times this year. If that person has another visit this year, how much money would you pay? \$ _____
4. Suppose the person named above has had \$200 worth of dental services this year, and then has a visit to have his/her teeth cleaned, which costs \$10. How much money would you pay for the teeth cleaning? \$ _____
5. Suppose the person named above has visited a psychiatrist at Group Health 20 times this year. How much money would you pay for another visit this year? \$ _____
6. Suppose the person named above had five prescriptions filled this year at a Group Health pharmacy for drugs prescribed by a doctor. How much money would you pay if that person has another prescription filled? \$ _____
7. Is there a maximum number of days in one year that the person named above can stay in a semi-private room at a Group Health hospital without having to pay the full cost for that room? \$ _____

YES _____ IF YES, how many
NO _____ days are allowed? _____

This form was filled out by _____ DATE _____

Please return this form in the enclosed prepaid self-addressed envelope. THANK YOU.

GHC/C
HIEI #237

COVERAGE QUESTIONNAIRE: CONTROL FAMILIES
IN GROUP HEALTH COOPERATIVE

The following questions are about the total health care coverage given by all insurance policies which cover the person named below. (This family member was chosen at random.) To answer the questions you may wish to check with other people or look up information in the materials about those policies.

Each of the following questions asks what you think you would pay, beyond any amount paid by your insurance, if

needed some kind of medical care.

1. Suppose your family has used no medical care services for two years. What would you pay in each of the following cases:
 - a) The person named above spends one week in the Group Health Hospital. \$ _____
 - b) The person named above visits a doctor at Group Health. \$ _____
 - c) The person named above visits a dentist and has his/her teeth cleaned. The bill for this is \$10. \$ _____
 - d) The person named above makes his/her first visit to a psychiatrist at Group Health for diagnosis. \$ _____
 - e) The person named above has a prescription for penicillin filled at Group Health pharmacy. \$ _____
2. Suppose the person named above has recently spent two weeks in the Group Health hospital. If that person has to go back to the hospital for one week, how much would you pay? \$ _____
3. Suppose the person named above has visited the doctor at Group Health 20 times this year. If that person has another visit this year, how much would you pay for that visit? \$ _____
4. Suppose the person named above has had \$200 worth of dental services this year, and then has a visit to have his/her teeth cleaned, which costs \$10. How much would you pay? \$ _____
5. Suppose the person named above has visited a psychiatrist at Group Health 20 times this year. How much would you pay for another visit this year? \$ _____
6. Suppose the person named above has filled five prescriptions for penicillin at the Group Health pharmacy this year. How much would you pay if that person has to fill another one? \$ _____
7. Is there a limit on the number of days in one year that the person named above can stay in the Group Health hospital without having to pay the full cost for room and board?

YES _____
 NO _____

IF YES, how many days are allowed? _____

This form was filled out by _____ DATE _____
Please return this form in the enclosed prepaid self-addressed envelope. THANK YOU.

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