N-2264/1-HHS

MASTER SAMPLE SERIES

Volume 1: CODEBOOK FOR ELIGIBILITY-FAMILY CHANGES FILE

S. M. Polich, C. d'Arc Taylor

May 1986

HEALTH INSURANCE EXPERIMENT

Rand
SANTA MONICA, CA.

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PREFACE

This codebook describes the contents of a data file from the Health Insurance Experiment (HIE), a large social experiment conducted by The Rand Corporation from 1974 to 1982 under a grant from the U.S. Department of Health and Human Services. The HIE is issuing a number of data files, grouped in topical series, with associated documentation.

The codebook is the first of a projected three volumes documenting files in the master sample series. It provides data for 9,142 persons, while enrolled in the experiment, regarding their eligibility to participate in the experiment and their family composition.[1] The sample includes 8,254 insured enrollees assigned to experimental health insurance treatments and 888 "adjunct" enrollees. Although not similarly insured, these adjunct enrollees resided with insured families or were members of a control group.

The eligibility-family changes file consists of variables derived from administrative data maintained at Rand to keep track of participants over the course of the experiment. For each variable in the file, this codebook lists the data sources, defines all response codes, and tabulates the response frequencies. The codebook is thus a basic reference for file users. The eligibility-family changes file and its codebook supersede all previously issued data about the participant sample or participants' eligibility status and family composition.

Allyson Davies, Arleen Leibowitz, William Rogers, Chih-Ming Fan, and Suzanne Polich defined most of the derived variables. Chih-Ming Fan and Sandra Poindexter provided programming support, and Betty Amo provided administrative support. Geoffrey Anderson and Gregory Rest reviewed the draft codebook and made useful suggestions. Joice Polin prepared numerous typescripts. Final production of this Note was supervised by Patricia Bedrosian.

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[1]Volume 2 provides demographic data for the full participant sample--all enrollees and anyone ever considered for enrollment. It is being published as S. M. Polich et al., *Master Sample Series, Vol. 2: Codebook for Full Sample Demographic File*, The Rand Corporation, N-2264/2-HHS, May 1986. Volume 3, in preparation, will provide data for certain subsets of the full participant sample.

CONTENTS

FIGURES

TABLES

I. INTRODUCTION

This section presents an overview of the Health Insurance Experiment (HIE) and its data collection and file development efforts. It provides essential background for understanding the contents of this codebook. Section II describes the distinctive features of the data file this codebook documents and the master sample series of which it is a part. The period of enrollment in the experiment could be as long as five years. Obviously an enrollee's eligibility to participate in the experiment and family composition could change during that time. This file presents data collected at various intervals to document such changes. It is thus called the *eligibility-family changes file*. Section III presents the codebook itself.

EXPERIMENTAL DESIGN

The Rand Corporation conducted the Health Insurance Experiment from 1974 to 1982 in six sites across the United States: Dayton, Ohio; Seattle, Washington; Fitchburg and Franklin County, Massachusetts; and Charleston and Georgetown County, South Carolina.[1] The main purpose of the experiment was to assess how varying patients' cost of health services affected their use of services, their satisfaction with health care, the quality of their care, and the state of their health. A related purpose was to study how those outcomes were affected by the mode of delivery--fee for service or health maintenance organization (HMO).[2]

Over the course of the experiment, information of some kind was obtained for 26,148 persons. A total of 24,340 persons were

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[1]The sites were chosen to represent the four census regions of the country and both urban and rural areas. They also differed in the amount of delay to obtain an appointment, reflecting different degrees of stress on the ambulatory medical care system. Site selection is described in Philip J. Held, *Site Selection Criteria for the Health Insurance Study,* The Rand Corporation, N-2266-HHS, May 1985.

[2]For a discussion of the purposes and design of the HIE, see Joseph P. Newhouse, "A Design for a Health Insurance Experiment," *Inquiry,* Vol. 11, 1974, pp. 5-27. HIE is also called HIS, Health Insurance Study. The terms are synonymous.

administered a baseline interview (*baseline participants*[3]), of which 7,700 were ultimately enrolled (*primary enrollees*). An additional 554 persons were enrolled later (*secondary enrollees*), all but a few of them newborns or adopted children under one year of age. Primary and secondary enrollees were assigned to an *experimental insurance treatment*, and data on their use of health services were collected throughout their period of participation. Limited data were obtained for 2,483 *adjunct enrollees*. Of them 1,814 persons resided with primary and secondary enrollees but were not assigned to an insurance treatment. The remaining 669 were members of a control group in Dayton that was disbanded after a year.

Selection of Enrollees

Persons offered enrollment in the experiment comprise a random sample from each site, subject to certain eligibility restrictions.[4] They were chosen by a two-stage process. In each site an areawide probability sample of dwelling units was drawn. Their occupants were interviewed for eligibility, and those found eligible were questioned in depth about their socioeconomic characteristics and experience with health care.

Eligibility criteria excluded those whose health care delivery systems differed from options available to the general population. The following groups were excluded:

- Those who were eligible for Medicare or would become so during the experiment, i.e., those 62 years of age and older, or younger than 62 but with a Medicare-eligible condition such as end-stage renal disease.
- Those with family incomes over $25,000 (1973 dollars).
- Those institutionalized (jail, long-term hospital).

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[3]This and other distinctive HIE terms are defined in the Glossary at the end of this document.

[4]Subject also to slight oversampling of low-income families in Dayton, Massachusetts, and South Carolina.

- Veterans with service-connected disabilities.
- Those in the military and their dependents.[5]

Project staff verified the accuracy of the information given by baseline participants with employers and insurance companies.

In the second selection stage, HIE staff drew a representative sample of eligible persons to be offered enrollment and assigned each family to one of the insurance plans described below. A sophisticated technique assured that, across plans, families closely resembled each other in 24 health and socioeconomic characteristics.[6]

Experimental Treatments

Sixteen experimental treatments distinguished between coinsurance rates, delivery systems, and maximum out-of-pocket expenditures. All but one of the treatments were health insurance plans, listed below as A-O. Enrollees who had gone through the baseline selection process were assigned to one of the plans. The remaining treatment involved a control group in Seattle, chosen separately.

Insurance Plans. Plans A-N entailed different degrees of cost sharing under the fee-for-service system. Within each cost-sharing group, listed below, plans also differed by the ceiling placed on maximum expenditure. Plan O involved participation in a prepaid group practice, a traditional type of health maintenance organization:

A. Free care (0% coinsurance) (1 plan).
B-D. Family pays 25% of its medical bills (25% coinsurance) (3 plans).
E-G. 50% coinsurance (3 plans).

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[5]Details of HIE eligibility requirements are in Lorraine Clasquin and Marie E. Brown, *Rules of Operation for the Rand Health Insurance Study*, The Rand Corporation, R-1602-HEW, May 1977, Sec. II.

[6]The logic and techniques used to determine optimal sample sizes and assign individual families to experimental plans are described in Carl N. Morris, "A Finite Selection Model for Experimental Design of the Health Insurance Study," *Journal of Econometrics*, Vol. 11, 1979, pp. 43-61.

H-J. 50% coinsurance for dental and outpatient mental health services and 25% coinsurance for all other services (3 plans).

K-M. 95% coinsurance (3 plans).

N. 95% coinsurance on outpatient services; 0% on hospital care (1 plan).[7]

O. 0% coinsurance if care was received at a Seattle HMO, Group Health Cooperative of Puget Sound; 95% otherwise (1 plan).

Plans requiring coinsurance (B-N) placed a ceiling on annual out-of-pocket expenditures, above which care was free.[8] In all but one case (N), the ceiling was a specified percentage of the family's income or a dollar limit, whichever was less. The percentage varied with family income, and the dollar limit varied with the plan, as indicated below:

Plan	*Percentage of Family Income*	*Dollar Limit*
B-D	5, 10, or 15	1000/750[9]
E-G	5, 10, or 15	1000
H-J	5, 10, or 15	1000/750
K-M	5, 10, or 15	1000
N	--	150 per individual; 450 per family

[7]During the experiment's first year in Dayton, the provisions of plans A-N differed in two ways: only plan A covered dental services for adults; and the coinsurance rate on plans K-N was 100 percent instead of 95 percent.

[8]During the experiment's first year in Dayton, expenditures for outpatient mental health care did not apply toward the ceiling.

[9]In plans B-D and H-J the $1000 limit applied during the first two years of enrollment for Dayton families who enrolled from November 1974 to February 1975; and during the first year of enrollment for Seattle families who enrolled from January to September 1976. The $750 limit applied during subsequent enrollment years for the aforementioned families, and during the entire enrollment period for all other families.

HMO Control Group. A random sample of existing members of the Group Health Cooperative (subject to HIE eligibility requirements) was drawn as a control group for the HMO experimental group assigned to plan 0. The control group was formed to compare HMO use by those who had *chosen* that delivery mode (i.e., members of the control group) with use by those experimentally *transferred* to an HMO from the fee-for-service system (i.e., members of the experimental group). Enrollees in the HMO control group continued with the Group Health Cooperative under their prior arrangements but provided the same data as HMO experimental members.

Services Provided

Plans A-0 provided the same comprehensive benefits, including hospital, physician, dental, mental health, visual, and auditory services, drugs (including over-the-counter drugs for certain chronic conditions), and supplies. Services of nonphysician providers, such as audiologists, chiropractors, clinical psychologists, optometrists, physical therapists, and speech therapists, were also covered. The only noteworthy exclusions were nonpreventive orthodontic services, cosmetic surgery for preexisting conditions, and outpatient mental health visits exceeding 52 per year.

Enrollees were able to choose the physicians and other persons who provided their health care. However, if those in the HMO experimental group sought care outside the HMO that was available within, they were responsible for 95 percent of the cost. (For covered services, such as dental or chiropractic, that were unavailable at the HMO, members of the experimental HMO group were fully reimbursed.)

Enrollees in the HMO control group retained whatever benefit package they or their employer had purchased from the HMO. Members of both control and experimental groups were reimbursed 5 percent of the cost of care obtained outside the HMO to encourage the reporting of non-HMO care.

Terms of Enrollment

Families who accepted the insurance plan offered from plans A-O were enrolled in the experiment for either three or five years, the term randomly assigned. All members of the HMO control group were enrolled for five years.

Enrollees assigned any benefits from their existing health insurance policies to the HIE during the time they participated. No family was financially penalized by HIE enrollment. Enrollees were reimbursed for the cost of maintaining their policies, and if their HIE plan could, under any conceivable set of circumstances, provide less coverage than their private policies, they were paid the maximum difference.[10]

Table 1 indicates the timing of enrollment in the experiment and number of primary enrollees in each site.

DATA COLLECTION

Over the course of the experiment, extensive data were collected on participants' demographic and economic characteristics, health status, and use of health services. Background information was obtained on local health care costs, providers, and types of services rendered. The data collection instruments are described in Table 2.

Table 2 shows the amount and types of data gathered from the various participant groups. The most extensive data, especially longitudinal data on the use of health services, are available from the 7,700 primary enrollees, the group that participated in the experiment longest. Because of their age and shorter time in the experiment, secondary enrollees provided less data than primary enrollees. Baseline participants (including primary enrollees) provided much demographic and socieoeconomic data, as well as information on health status, experience with health care, and health-related attitudes.

[10]Calculation of the maximum difference is described in Appendix A.

Table 1

HIE ENROLLMENT PERIODS

Site	Number of Enrollees[1]	1974	1975	1976	1977	1978	1979	1980	1981	1982
Dayton	1137	Nov.						Feb.		
3-year	533					Feb.				
5-year	604									
Seattle	3112		Jan.					Sept.		
3-year	1500						Sept.			
5-year	1612									
Fitchburg	723		July					Oct.		
3-year	547						Oct.			
5-year	176									
Franklin Co.	889		July					Oct.		
3-year	649						Oct.			
5-year	240									
Charleston	779		Nov.							Feb.
3-year[2]	571				Nov.					
5-year	208									
Georgetown Co.	1060		Nov.							Feb.
3-year[3]	800				Nov.					
5-year	260									
Total	7700									

NOTE: Timelines mark the month and year in which the first person enrolled in the experiment and the month and year in which the last person left the experiment. Data on use of health services continued to be collected from several groups after the end dates shown here: one year afterward for the Dayton 5-year group and Seattle, Fitchburg, and Franklin County 3-year groups; six months afterward for the Dayton 3-year group.

[1]Numbers refer to primary enrollees, those assigned to insurance plans at the beginning of the experiment in each site. Figures for Seattle include the HMO control group.

[2]Some of these enrollees were also members of a preenrollment group between November 1976 and February 1979. An additional 339 persons participated in the preenrollment phase but did not formally enroll in the experiment.

[3]Some of these enrollees were also members of a preenrollment group between November 1976 and February 1979. An additional 213 persons participated in the preenrollment phase but did not formally enroll in the experiment.

Table 2

PRINCIPAL HIE DATA COLLECTION INSTRUMENTS

Instrument	Topics Covered	Data Collected		
		How	When	From
1. Screening questionnaire [1]	Demographic information to establish basic eligibility	Interview	Beginning of HIE operation in site	Occupants of representative sample of dwelling units on geographic clusters in site
2. Baseline questionnaire	Income, employment Family composition	Interview	4-6 months before enrollment	Baseline participants
	Health status Health care experience and insurance coverage Satisfaction with medical care	Self-administered		
3. Enrollment verification form	Changes in family composition, economics, or insurance coverage since baseline questionnaire	Interview	Between administration of baseline questionnaire and enrollment date	Baseline participants determined eligible
4. Medical history questionnaire (MHQ), 3 versions by age group: 0-4 years 5-13 years 14+ years	Form A: health status, attitudes, habits Form B: specific medical disorders	Administered by self or parent [2]	Just before enrollment and exit [3]	Insured enrollees
5. Medical screening examination	Physiologic tests	Paramedical personnel	Just before enrollment and exit	Sample of insured enrollees; all exiting enrollees
6. Health report	Use of medical or dental services and time spent obtaining them; any restricted activity or bed disability	Administered by self or parent	Biweekly during period of participation	Insured enrollees [4]
7. Health care questionnaire, 3 versions by age group: 0-4 years 5-13 years 14+ years	Health status, attitudes, habits (subset of MHQ)	Administered by self or parent	Each anniversary of enrollment except at exit	Insured enrollees

For footnotes, see p. 10.

Table 2 (cont.)

Instrument	Topics Covered	Data Collected		
		How	When	From
8. Annual income report	Amount and sources of family income, taxes paid	Self-administered	Annually (April)	Head of insured family
9. Periodic employment report	Wages, hours worked, family payments for care of children or elderly, government program benefits received	Self-administered	Semiannually	Enrollees (head and family members 16 and older)
10. Assets and debts questionnaire	Family assets and liabilities	Self-administered	Exit	Head of insured family
11. Knowledge of coverage questionnaire	Details of HIE insurance plan	Self-administered	Specified intervals [5]	Insured enrollees
12. Insurance abstraction	Details of selected insurance policies	Abstraction	At time of knowledge of coverage questionnaire	Insurance company brochures
13. Chronic condition questionnaire	Status of condition, correctness of diagnosis, adequacy of treatment	Physician interview	At exit medical screening examination	Sample of insured enrollees found to have certain chronic conditions [6]
14. Evaluation questionnaire	Perceptions and attitudes about HIE and health care system	Self-administered	Exit	Head of insured family
15. Health notice	Use of medical or dental services	Administered by self or parent	Biweekly during preenrollment phase (South Carolina); 6 months-1 year after exit (other sites)	Preenrollees (So. Carolina), insured enrollees who have exited (other sites)
16. Medical expense report (MER)--fee-for-service claim form, 4 types: Doctors' services and supplies Dental care Hospital and extended care Pharmacy	Each use of medical or dental service, drugs, and equipment; reason or diagnosis; treatment	Administered by self or parent	Time of occurrence	Insured enrollees and providers/suppliers

For footnotes, see p. 10.

Table 2 (cont.)

Instrument	Topics Covered	Data Collected		
		How	When	From
17. Services rendered report (SERR)--HMO equivalent of MER [7], 2 types: Doctors' services and supplies; Hospital and extended care	Each use of medical service provided by HMO; reason or diagnosis; treatment	Abstraction	Annually to cover entire previous year	HMO records for insured enrollees in HMO experimental and control groups
18. Factor price survey	Wages and benefits of selected hospital personnel [8], average daily inpatient population	Phone and mail	Semiannually	Sample of local hospitals
19. Consumer price index	Prices of selected nonmedical products in the six HIE sites	Phone and inspection	Semiannually	Sample of local retailers
20. Physician capacity utilization survey (PCUTS)	Availability of services[9]	Phone	Annually	Sample of local physicians [10]
21. Dentist capacity utilization survey (DCUTS)	Similar to PCUTS	Phone	Annually	Sample of local dentists [11]

1. Administered as a separate questionnaire only in Dayton; part of baseline questionnaire in the other sites.
2. When "parent" appears in this column, a parent was asked to provide data for children 13 and younger.
3. "Exit" refers to normal departure from the experiment after completing the assigned enrollment period, three or five years. Those who "attrited," or voluntarily left the experiment early, received an "attrition" MHQ that was identical to the exit MHQ.
4. In the first year of the experiment in Dayton, the health report was administered weekly to a random half of Dayton enrollees. In the first year of the experiment in Massachusetts and South Carolina, 25 percent of enrollees were exempted to measure the reporting requirement's effect on the use of health services. Also at one point virtually all participants stopped filling out health reports, for budgetary reasons.
5. Intended intervals were enrollment, 18 months, 3 years, and 5 years after enrollment (the last only for the 5-year participants). Actual mailings approximated those intervals in Massachusetts and South Carolina; the first mailing was 2-1/2 years and 1 year after enrollment in Dayton and Seattle, respectively.
6. Hypertension, diabetes, thyroid diseases, chronic heart diseases, chronic lung diseases, joint diseases, ulcers, cerebrovascular disease.
7. Pharmacy data were obtained directly from an HMO-supplied computer tape. Dental care was not available through the HMO; HMO participants reported claims for dental care and other non-HMO services on the MER.
8. Categories of personnel: registered nurses (general-duty), medical technicians, licensed professional nurses, nursing aides, kitchen helpers, general stenographers, and maids or porters.
9. Waiting time for appointments; appointments per hour; patients seen in office, home, and hospital; weekend office hours; office staffing; cost of office visit; whether new patients accepted.
10. Physicians (M.D. or D.O.) specializing in general practice, internal medicine, and pediatrics.
11. Except in Fitchburg, Franklin County, and Georgetown County, where all dentists were surveyed.

Several subcontractors to Rand participated in the data collection effort. Until March 1975, Mathematica, Inc., supervised data collection, administered the insurance plans, and processed claim forms. Thereafter, National Opinion Research Center managed data collection and Glen Slaughter and Associates handled insurance administration and claim processing. American Health Profiles, Inc., conducted the medical screening examinations at enrollment (October 1974 through January 1977); CompuHealth administered those examinations at exit (October 1977 through December 1981).

FILE DEVELOPMENT

Subcontractors sent the collected data to Rand, either in hardcopy form or as cleaned data tapes. At Rand the hardcopy data were encoded for machine readability and subjected to computerized checks for adherence to specified response ranges; outliers were checked for fidelity to the original response and otherwise left unchanged. Limited cross-checking was done to assess logical consistency among a respondent's answers. All identifiers permitting information to be linked to a specific respondent were replaced twice to protect respondents' privacy.[11] The cleaned records were then arranged in the HIE version of standard computer file format, and the resulting files of *primary variables* made available for HIE analyses.

When an analyst needed information that required manipulation of primary data, *derived variables* were constructed. The analyst and a programmer determined a suitable way of obtaining the information by extracting, aggregating, or transforming primary data, and the programmer wrote the appropriate logic. With the analyst's approval, the new variable was entered on the master file.

Both primary and derived variable files are being issued to the public in a number of topical series. Appendix B provides a complete list of the files to be issued.

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[11]The first conversion was known only to the subcontractor, the second only to Rand. Neither institution could make the full link from the respondent's name to his or her identifier on the analytic files.

The machine-readable tape for each file includes data in both SAS[12] (Statistical Analysis System) and character formats, and an index of character-format variables.[13]

A codebook is also provided for each file. This volume contains the codebook for a derived variable file in the *master sample series.* Section II describes the file and its place in the series; Sec. III presents the codebook.

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[12]A registered trademark of SAS Institute Inc.

[13]This is the content of all files issued by Rand. Other institutions (e.g., National Archives) will distribute these files and may alter their contents.

II. ELIGIBILITY-FAMILY CHANGES FILE

The eligibility-family changes file is the first of three files in the master sample series, which contains demographic and eligibility data for all participants in the experiment. Each file in the series treats a different part of the participant universe.

SERIES SAMPLE

Figure 1 depicts the two main samples and their components. The baseline sample (dashed border) contains all persons who were considered for HIE enrollment on the basis of information they gave in screening and baseline interviews. The enrolled sample (solid border) contains all persons assigned to an experimental treatment, members of their households not so assigned, and a short-lived control group.

The baseline-only part of the sample consists of persons who never enrolled. They were (1) determined ineligible, (2) found eligible but not offered enrollment, or (3) found eligible but refused enrollment.

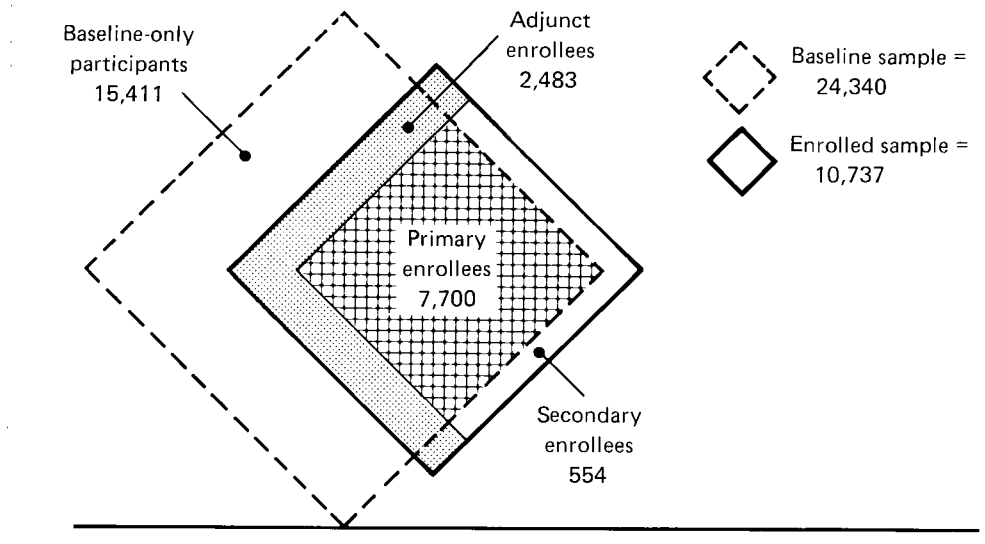

Fig. 1 -- Sample groups covered by the master sample series

The crosshatched area represents those who signed an enrollment contract. These primary enrollees are pivotal: They remained after the baseline selection process and formed the nucleus of the enrolled sample. Those who entered a family after its date of enrollment are the secondary enrollees in the sample. Adjunct enrollees were not assigned to an experimental treatment. Most resided with primary or secondary enrollees (as suggested in Fig. 1 by the contiguity of the shaded area with primary and secondary enrollee areas); 669 were members of a control group in Dayton that was discontinued after 15 months (November 1974 to February 1976).

In the master sample series of codebooks, this volume (Vol. 1) shows eligibility status and family composition of primary and secondary enrollees from the time they enrolled until their participation ended. It also provides limited data for 888 adjunct enrollees, excluding the Dayton control group and self-supporting adjunct enrollees, as explained below. Volume 2 provides demographic data for both baseline and enrolled samples. Volume 3, in preparation, will provide supplemental data for certain subsets of the entire participant sample.

DYNAMICS OF ELIGIBILITY AND ENROLLMENT

To define the enrollee sample covered in this codebook, it is necessary to look more closely at eligibility and the enrollment process. The following discussion simplifies the rules somewhat for ease of comprehension.[1]

Enrollment

The purpose of the experiment was to study the demand for and cost of health care, and we desired to limit out-of-pocket expense to a specified fraction of family income. Therefore, the unit of enrollment was the family--defined as a single self-supporting individual or a group of related persons who shared income. Specifically, after the baseline selection process, enrollment was offered to

[1]Full details are in Lorraine Clasquin and Marie E. Brown, *Rules of Operation for the Rand Health Insurance Study*, The Rand Corporation, R-1602-HEW, May 1977, pp. 4-12 and 26-32.

- Eligible self-supporting individuals.
- Groups composed of any of the following who occupied the same residence:
  - -- Eligible family head (not dependent on others in the household for more than half of his or her support) and spouse or person whom head claimed to be spouse. The spouse was also considered a head.
  - -- Other persons financially dependent on the head and closely related to the head by blood, marriage, or adoption.

A family was eligible as long as it contained one eligible person who was at least 18 years old and could be designated head; the ineligibility of other individual members did not affect the eligibility of the family as a whole.[2]

Families defined as above were enrolled in the HIE, and their members were "insured"--assigned to an experimental treatment. Those in one of the 15 insurance plans were considered HIE-insured; those in the HMO control group were considered HMO-insured. A household could contain more than one insured family if more fit the definition. For example, if a self-supporting adult daughter or daughter and her husband lived with her parents, they were insured as a separate family.

Three categories of family or household members were not eligible for insurance under the HIE:

1. Members otherwise ineligible for the experiment: for example, those over the age limit or veterans with service-connected disabilities.
2. Members financially dependent on but unrelated to the head.

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[2]Except that the entire family was ineligible if its income exceeded $25,000 (1973 dollars) at the time of the baseline interview or the head received free or highly subsidized medical care, as through the armed services or Medicare.

3. Members who entered the family, or moved back home, after the family's enrollment date.[3]

A person in any of those categories (as well as any family member who refused to join the family's assigned insurance plan) was enrolled as an "uninsured"[4] *person of interest* if financially dependent on the head, or a *family of interest* if self-supporting. Each member of an ineligible, self-supporting family residing in an insured household was also designated "family of interest."

Because of their association with insured families, we consider persons and families of interest to be adjunct enrollees and include them in the enrolled sample. The eligibility-family changes file includes persons but not families of interest; the latter are analytically unimportant because they do not contribute to or use the income pool from which insured families pay for health care.[5]

Members of the Seattle HMO control group were not chosen by the unbiased selection model used to assign the other enrollees to an insurance plan. The HMO control group was a random sample of existing HMO members who met HIE eligibility criteria. Therefore, it does not necessarily resemble the HMO experimental group or enrollee groups in the fee-for-service plans. HMO control families completed the same questionnaires as HIE-insured families. Utilization data for both control and experimental HMO groups were abstracted from HMO records.

For all enrollees, the administrative unit of time was the contract year. A family's first contract year began on its enrollment date and ended one year later. The second contract year began on the first anniversary of enrollment and extended to the next anniversary date, and so on. All family members were assigned the same enrollment date,

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[3]Exceptions were newborns, adopted children under one year of age, and new members of families in the Seattle HMO control group.

[4]Throughout this Note, "uninsured" refers to someone neither HIE-insured nor HMO-insured, not necessarily someone without health insurance altogether.

[5]This file also excludes 82 other persons or families of interest because they appeared on HIE records only after the enrollees with whom they resided had left the experiment.

whether insured or uninsured, even those added later. Each family's normal period of enrollment extended three or five contract years, depending on the term assigned. At the beginning of the second and each subsequent contract year, HIE staff recalculated each family's maximum out-of-pocket expenditure (based on income) and formally recognized any changes of eligibility and family composition that had occurred since the last anniversary date. To simplify analysis and administration, such changes were not formalized during the contract year.

Eligibility Changes

The size and composition of the enrolled sample changed over time as families acquired new eligible members; as insured persons were suspended and reinstated; as participants left the experiment; and as a few persons changed from insured to uninsured status and the reverse. Each of those events entailed a change of eligibility status that is recorded in this file.

New Enrollment. The status of persons added to a family after its enrollment date depended on the eligibility criteria stated above. Newborns and adopted children under one year of age were enrolled as HIE-insured. New members of HMO control families were, if they chose, enrolled as HMO-insured. Others were enrolled as uninsured persons of interest.

Suspension. Enrollees were suspended if they became ineligible for the experiment for a period expected to be temporary. The most common reasons for suspension were residence out of the country, call to active military duty, and confinement to a penal or other government-supported institution, where the health care options were very different from those of other participants.

Suspended enrollees were not entitled to HIE insurance benefits, but their families were asked periodically to report on their status. A person still ineligible at the end of the contract year was terminated from the experiment. That timing did not apply to the Seattle HMO control group. If a family was suspended from the HIE because it lost

HMO coverage (by changing employers or moving out of the HMO service area, for example), it was terminated if it did not rejoin the HMO within three months, regardless of anniversary date.[6]

Departure. Terms for leaving the experiment are carefully distinguished. Those who completed their assigned enrollment period *exited*; those who withdrew before the end of their enrollment period *attrited*; those who became permanently ineligible or failed to fulfill their obligations were *terminated*. *Death* is a separate category. The suspension, attrition, termination, or death of the family head did not affect the eligibility of remaining family members.

An enrollee was usually terminated outright (rather than suspended first) for one of two general reasons: (1) accepting health care under Medicaid, Medicare disability, Supplemental Security Income (SSI), or similar comprehensive program, or (2) being uncooperative or unlocatable. HIE guidelines for suspension and termination were not rigid, however, but adjusted to fit individual circumstances.

Insurance Status Changes. The following sequence of actions illustrates how an insured person could become a person of interest: moving out of the country, which triggered suspension; remaining away through the contract year (triggering termination); then returning to the family residence (triggering reenrollment as a person of interest). An insured person who married and established a separate residence remained insured (as a new family); the spouse was enrolled as a person of interest.

Participants originally enrolled as persons of interest could not change to HIE-insured status, but persons of interest in HMO control families could change to HMO-insured status. During the experiment only 34 persons moved between insured and uninsured status while enrolled, either changing from HIE- or HMO-insured to a person of interest, or from a person of interest in the HMO control group to HMO-insured. One

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[6]Members of the HMO *experimental* group could not be suspended by changing employers because they were insured by the HIE, not by their employer or themselves. If they moved outside the HMO service area, they were converted to the fee-for-service plan with 0 percent coinsurance (plan A, described on p. 3). In that case only their residence address and insurance plan code changed, not their eligibility status.

additional person changed from a person of interest to a family of interest so was dropped from this file at that point.

Eligibility History

An enrollee's eligibility history can be traced by interpreting his/her data in the eligibility-family changes file. The most straightforward example is presented by a hypothetical enrollee (PERSON 1) who goes through the baseline selection process, enrolls with his/her family as an insured person, remains insured throughout the family's assigned enrollment term, and exits normally. That history is portrayed as follows:

PERSON 1

Variable	Value	Meaning
INSTAT (insurance status)	1	ever HIE-insured
FIRSTC (first contact date)	07/15/75	
ENRDATE (family enrollment date)	05/01/76	
STARTD (start of insurance coverage)	05/01/76	
ENDINS (date insurance coverage ended)	05/01/79	
RENDINS (reason for losing coverage)	5	normal exit
TIME1 (time insured during year 1)	1.00	
TIME2 (time insured during year 2)	1.00	
TIME3 (time insured during year 3)	1.00	
TIME4 (time insured during year 4)	"missing"[7]	after exit
TIME5 (time insured during year 5)	"missing"	after exit
SUSPD1 (first suspension start date)	"missing"	never suspended
SUSEND1 (first suspension end date)	"missing"	never suspended
SUSPD2 (second suspension start date)	"missing"	never suspended
SUSEND2 (second suspension end date)	"missing"	never suspended

[7]On the file, missing values are represented by the conventional SAS "dot."

PERSON 1 was first contacted on 07/15/75 (FIRSTC) and enrolled some months later, on the same date as his/her family (ENRDATE and STARTD). Therefore, PERSON 1 participated in the baseline selection process and was in the family when it enrolled. He/she exited three years after enrollment (ENDINS and RENDINS). The remaining TIME and SUS variables show that the person's insurance coverage was continuous over his/her enrollment.

PERSON 2's story is more complex, as is revealed by his/her values on the same variables:

PERSON 2

Variable	Value	Meaning
INSTAT (insurance status)	1	ever HIE-insured
FIRSTC (first contact date)	12/01/78	
ENRDATE (family enrollment date)	06/01/76	
STARTD (start of insurance coverage)	12/01/78	
ENDINS (date insurance coverage ended)	06/01/81	
RENDINS (reason for losing coverage)	5	normal exit
TIME1 (time insured during year 1)	"missing"	not yet insured
TIME2 (time insured during year 2)	"missing"	not yet insured
TIME3 (time insured during year 3)	0.50	
TIME4 (time insured during year 4)	1.00	
TIME5 (time insured during year 5)	1.00	
SUSPD1 (first suspension start date)	"missing"	never suspended
SUSEND1 (first suspension end date)	"missing"	never suspended
SUSPD2 (second suspension start date)	"missing"	never suspended
SUSEND2 (second suspension end date)	"missing"	never suspended

The family was enrolled on 06/01/76 (ENRDATE). PERSON 2 joined the family and became insured two-and-a-half years later, on 12/01/78 (FIRSTC and STARTD). He/she continued to be insured until the family exited (ENDINS and RENDINS). The TIME variables reflect this person's enrollment in the last half of year 3 and insured status through years 4

and 5. INSTAT indicates that the person was HIE-insured, so he/she was a newborn or adopted child under one year of age.

PERSON 3's story is even more complex:

PERSON 3

Variable	Value	Meaning
INSTAT (insurance status)	2	ever HMO-insured
FIRSTC (first contact date)	12/01/78	
ENRDATE (family enrollment date)	06/01/76	
STARTD (start of insurance coverage)	12/01/78	
ENDINS (date insurance coverage ended)	12/01/80	
RENDINS (reason for losing coverage)	2	termination
TIME1 (time insured during year 1)	"missing"	not yet insured
TIME2 (time insured during year 2)	"missing"	not yet insured
TIME3 (time insured during year 3)	0.50	
TIME4 (time insured during year 4)	1.00	
TIME5 (time insured during year 5)	0.50	
SUSPD1 (first suspension start date)	09/01/80	
SUSEND1 (first suspension end date)	12/01/80	
SUSPD2 (second suspension start date)	"missing"	not suspended twice
SUSEND2 (second suspension end date)	"missing"	not suspended twice

The family was enrolled in the HMO control group on 06/01/76 (INSTAT and ENRDATE). PERSON 3 joined the family and became insured on 12/01/78 (FIRSTC and STARTD). A three-month suspension from 09/01/80 to 12/01/80 (SUSPD1 and SUSEND1) was followed by termination (ENDINS and RENDINS). Probably the family lost HMO coverage because the head changed jobs and did not rejoin the HMO within three months. The TIME variables reflect this person's enrollment in the last half of year 3, insured status throughout year 4, and lack of coverage for half of year 5.

Family Composition Changes

To maintain the longitudinal accuracy of the HIE data, it was important to follow families--the relationship unit of enrollment--when they lost or acquired members during the experiment. The eligibility-family changes file permits the tracking of stability and change by providing a picture of family composition and relationships at the beginning of each contract year.

The picture is conveyed by a group of identifiers--person, family, and household identifiers for each enrollee, plus an identifier stating the enrollee's relationship to the family head--at enrollment, second through fifth contract years, and exit. Person identifiers never changed; family identifiers changed if a family acquired a member (through birth, adoption, or moving in, for example) or lost a member (through separation or divorce, moving out, or death, for example). The household identifier was important if two or more families lived together; that identifier changed for the entire household if a change occurred in any of its families.

For example, consider a hypothetical household H composed of families A and B. During the first contract year, family A consisted of husband, wife, and teenage daughter, with person identifiers 1, 2, and 3, respectively. Family B consisted of the self-supporting adult son of family A, with person identifier 15. The household can be represented as follows:

First Contract Year

PERSON	IFAMILY1	HH1
1	A	H
2	A	H
3	A	H
15	B	H

Sometime in the first contract year, the son married and brought his wife into the household. The newcomer was given person identifier 56. At the beginning of the second contract year, the household is thus represented as follows:

Second Contract Year

PERSON	IFAMILY2	HH2
1	A	I
2	A	I
3	A	I
15	C	I
56	C	I

Family A was unchanged, so its identifier remained the same for all members. The composition of family B changed, so the identifier for its members changed to C. The household was altered by the new wife's presence, so the household identifier for all members changed from H to I.

To follow this group through one more change, during contract year 2, the husband and wife in family A separated and the husband moved out. He thereby established a new family and household, and left an altered household behind. The picture at the beginning of year 3 is thus

Third Contract Year

PERSON	IFAMILY3	HH3
1	D	J
2	E	K
3	E	K
15	C	K
56	C	K

The new household and family identifiers reflect the changes described.

By assembling the identifiers for an enrollee during his/her participation period, it is possible to trace the family and household configurations with which the person was associated each contract year. Remember, however, that families of interest are excluded from the eligibility-family changes file, so it is impossible to determine from these data whether a household contained an uninsured family. Another

caution is that the data showing an enrollee's relationship to the family head are unaudited and may reflect inconsistent coding.

FILE SAMPLE

Because of the eligibility and family changes noted above, the size of the enrollee sample varied constantly. Therefore, to summarize the sample covered in the eligibility-family changes file, it is necessary to refer to the maximum sample over the experimental period.

In terms of eligibility status, the maximum file sample includes those who were HIE-insured, HMO-insured, and uninsured. Table 3 shows the sizes of those groups by site, with the two sites each in Massachusetts and South Carolina considered one.

To avoid double-counting the 35 persons who changed eligibility status during their enrollment period, we have assigned them to only one status category. Thus, the HIE-insured column enumerates those who were HIE-insured at any time, including 7,421 persons who were always insured, 16 insured persons who became persons of interest, and one insured person who terminated and then returned as a family of interest. Similarly, the HMO-insured column includes (besides the always HMO-insured) eight insured persons who became persons of interest, six who did the reverse, two who changed from insured to person of interest

Table 3

SAMPLE IN ELIGIBILITY-FAMILY CHANGES FILE

Site	Total	Ever HIE-Insured	Ever HMO-Insured	Always Uninsured
Dayton	1387	1208	--	179
Seattle	3731	2535	816	380
Massachusetts	1867	1710	--	157
South Carolina	2157	1985	--	172
Total	9142	7438	816	888

then back to insured, and one person of interest who became insured then changed back to a person of interest. Accordingly, the uninsured column includes those "always" uninsured, that is, always designated a person of interest (except for one person of interest who changed to a family of interest).

DATA SOURCES

The variables described in this codebook are transformations of data in several administrative files maintained by Rand or its subcontractors to keep track of participants over the course of the experiment. The *document accountability file* notes which data collection instruments and other documents are in the database for each participant. It was used to summarize the information available for a participant. The *family tracking file* has continuous information on enrolled families. It was used to determine the composition of a household or family, and the eligibility status of its individual members, at any point.

The subcontractor who administered the insurance plans kept a file of specific *reasons for attrition and termination*, from which information was released to Rand on request. The *death certificate file* contains information on the date and circumstances of death for enrollees who died, through September 1984. The data are from official death certificates obtained when HIE staff learned of an enrollee's death.

The administrative files will not be released to the public. Files in the master sample series contain all essential data on the participant sample and participants' socioeconomic characteristics. Those files and their associated codebooks supersede all previously issued sample data.

III. THE CODEBOOK

VARIABLE DESCRIPTIONS

This codebook describes each variable in the eligibility-family changes file.[1] The format is illustrated in Fig. 2 for the variable ADDYR and described below.

The box on the left provides a basic description of the variable, including

- Variable name, the substantive abbreviation used by analysts.
- File name, in this case EFC, the acronym for "eligibility-family changes."
- Variable label, a capsule description.
- Response codes and their definitions.
- Prose definition.

Below the box appear essential explanatory notes if any, including the data source of the variables.

VARIABLE ADDYR EFC FILE

Contract year participation began

CODES

0 - Enrollment
1 - First year
2 - Second year
3 - Third year
4 - Fourth year
5 - Fifth year

ADDYR indicates whether the participant joined the experiment when the family enrolled or during a subsequent contract year. For primary enrollees ADDYR is 0; for secondary enrollees, 1-5.

SOURCE: Family tracking file

ADDYR

VALUE	FREQ	CUM FREQ	%	CUM %
0	7900	7900	86.41	86.41
1	364	8264	3.98	90.40
2	355	8619	3.88	94.28
3	329	8948	3.60	97.88
4	104	9052	1.14	99.02
5	90	9142	0.98	100.00

Fig. 2 -- Example of codebook format

[1]A technical description of the file, including the location and length of each variable, is provided in Appendix C.

At the right of the box for most variables is a table of response frequencies. The first column lists all response codes appearing for the variable. The second and third columns show, respectively, the absolute and cumulative response frequencies for each code. The fourth and fifth columns show the corresponding absolute and cumulative percentages. For continuous variables--proportion of time insured, for example--statistics such as the mean, standard deviation, and coefficient of variation are given instead of frequencies. The total number of observations is 9,142.

HEADER VARIABLES

Four identifiers precede the other variables on the file. FILENAME denotes the present file. PERSON identifies each enrollee, permitting data to be merged for an individual across years and files. The other identifiers are SITE and INSTAT (HIE insurance status), which can be used to select analytic subsamples.

CODEBOOK USE

For analysis, sample data from files in the master sample series should be used with files of substantive data from the experiment. To illustrate, the TIME1 through TIME5 variables in this file show the proportion of time an enrollee was insured during contract years 1 through 5. Those data could be linked with data on expenditures and visit counts from the claims series of files[2] to determine which enrollees are represented by partial years of use.

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[2]Reported in C. E. Peterson, M. Nelsen, and E. S. Bloomfield, *Aggregated Claims Series, Vol. 1: Codebook for Annual FFS Expenditures and Visit Counts*, The Rand Corporation, N-2360/1-HHS, May 1986.

CODEBOOK FOR ELIGIBILITY-FAMILY CHANGES FILE

VARIABLE FILENAME EFC; HEADER

Name of file

FILENAME is a unique 6-character code that identifies this file as DSE0AA.

FILENAME

VALUE	FREQ	CUM FREQ	%	CUM %
DSE0AA	9142	9142	100.00	100.00

VARIABLE PERSON EFC; HEADER

Person identifier

PERSON is an 8-character alphanumeric code that uniquely identifies the participant in the HIE to whom the following data refer. The 2nd character of PERSON designates in which site a participant resided during enrollment in the HIE: A=Dayton; B=Seattle; E=Fitchburg; F=Franklin County; G=Charleston; H=Georgetown County.

VARIABLE SITE EFC; HEADER

Site

CODES

1 - Dayton, Ohio
2 - Seattle, Washington
3 - Fitchburg, Massachusetts
4 - Franklin County, Massachusetts
5 - Charleston, South Carolina
6 - Georgetown County, South Carolina

SITE identifies the participant's place of residence when enrolled.

SITE

VALUE	FREQ	CUM FREQ	%	CUM %
1	1387	1387	15.17	15.17
2	3731	5118	40.81	55.98
3	834	5952	9.12	65.11
4	1033	6985	11.30	76.41
5	910	7895	9.95	86.36
6	1247	9142	13.64	100.00

VARIABLE INSTAT EFC; HEADER

Insurance status

CODES

1 - Ever HIE-insured
2 - Ever HMO-insured
3 - Never insured

INSTAT describes the participant's insurance status in the Health Insurance Experiment.

INSTAT

VALUE	FREQ	CUM FREQ	%	CUM %
1	7438	7438	81.36	81.36
2	816	8254	8.93	90.29
3	888	9142	9.71	100.00

VARIABLE PERINT EFC

Ever a person of interest?

CODES

0 - No
1 - Yes

PERINT indicates whether the participant was ever a person of interest. Some participants were insured for only part of the experiment.

PERINT

VALUE	FREQ	CUM FREQ	%	CUM %
0	8221	8221	89.93	89.93
1	921	9142	10.07	100.00

SOURCE: Family tracking file

VARIABLE FIRSTC EFC

First contact date

RANGE

19740601 to 19811125

FIRSTC is the date of the participant's first contact with the HIE. FIRSTC takes the form YYYYMMDD.

SOURCE: Family tracking file

VARIABLE ENRDATE EFC

Family enrollment date

RANGE

19741101 to 19790201

ENRDATE is the date of enrollment for families ever insured (YYYYMMDD). Every participant, whether insured or not, is assigned the family's enrollment date.

SOURCE: Family tracking file

VARIABLE STARTD EFC

Start of insurance coverage or individual's enrollment

RANGE

19741101 to 19811125

STARTD is the date of enrollment for individual participants (YYYYMMDD). For enrollees ever insured, STARTD is the date their insurance coverage began. For enrollees never insured, STARTD is the first date person appeared in an insured family.

SOURCE: Family tracking file

VARIABLE ENDINS EFC

Date insurance coverage ended

RANGE

. - Person of interest
19750210 to 19820201

ENDINS is the date (YYYYMMDD) an ever-insured enrollee lost insurance coverage. ENDINS refers to permanent loss of coverage excluding suspensions. Therefore, except for insured enrollees who became persons of interest, ENDINS is also the date an ever-insured enrollee left the experiment.

SOURCE: Family tracking file

VARIABLE RENDINS EFC

Reason for losing coverage

CODES

. - Person of interest
1 - Attrition
2 - Termination
3 - Death
4 - Ineligibility
5 - Normal exit

RENDINS indicates why an HIE-insured or HMO-insured enrollee lost insurance coverage. For codes 1-3 and 5, RENDINS is also the reason for leaving the experiment. Persons in code 4 changed from insured to uninsured but remained as persons of interest.

SOURCE: Family tracking file

RENDINS

VALUE	FREQ	CUM FREQ	%	CUM %
.	888	.	.	.
1	406	406	4.92	4.92
2	507	913	6.14	11.06
3	56	969	0.68	11.74
4	20	989	0.24	11.98
5	7265	8254	88.02	100.00

VARIABLE ENDEXP EFC

Date of leaving experiment

RANGE

19750210 to 19820201

ENDEXP is the date (YYYYMMDD) the participant left the experiment.

SOURCE: Family tracking file

VARIABLE RENDEXP EFC

Reason for leaving experiment

CODES

1 - Attrition
2 - Termination
3 - Death
5 - Normal exit

RENDEXP indicates why the participant left the experiment.

SOURCE: Family tracking file

RENDEXP

VALUE	FREQ	CUM FREQ	%	CUM %
1	658	658	7.20	7.20
2	569	1227	6.22	13.42
3	71	1298	0.78	14.20
5	7844	9142	85.80	100.00

VARIABLE ADDYR EFC

Contract year participation began

CODES

0 - Enrollment
1 - First year
2 - Second year
3 - Third year
4 - Fourth year
5 - Fifth year

ADDYR indicates whether the participant joined the experiment when the family enrolled or during a subsequent contract year. For primary enrollees ADDYR is 0; for secondary enrollees, 1-5.

SOURCE: Family tracking file

ADDYR

VALUE	FREQ	CUM FREQ	%	CUM %
0	7900	7900	86.41	86.41
1	364	8264	3.98	90.40
2	355	8619	3.88	94.28
3	329	8948	3.60	97.88
4	104	9052	1.14	99.02
5	90	9142	0.98	100.00

VARIABLE DROPYR EFC

Contract year of premature departure

CODES

. - Normal exit
1 - Year 1
2 - Year 2
3 - Year 3
4 - Year 4
5 - Year 5

DROPYR defines the family's contract year in which an enrollee who did not exit normally left the experiment.

SOURCE: Family tracking file

DROPYR

VALUE	FREQ	CUM FREQ	%	CUM %
.	7827	.	.	.
1	318	318	24.18	24.18
2	378	696	28.75	52.93
3	322	1018	24.49	77.41
4	175	1193	13.31	90.72
5	122	1315	9.28	100.00

VARIABLE TIME1 EFC

Time insured during year 1

CODES

. - Uninsured or not present the entire year
0 - Suspended the entire time present, or insured less than 1 day

TIME1 shows the proportion of time the participant was insured during the family's first contract year.

SOURCE: Family tracking file

TIME1

NUMBER OF OBSERVATIONS	7839
NUMBER OF MISSING	1303
MEAN	0.97
MEDIAN	1.00
MINIMUM VALUE	0.00
MAXIMUM VALUE	1.00
STANDARD DEVIATION	0.13
COEFFICIENT OF VARIATION	13.62
SKEWNESS	-5.23
KURTOSIS	27.43

VARIABLE TIME2 EFC

Time insured during year 2

CODES

. - Uninsured or not present the entire year
0 - Suspended the entire time present, or insured less than 1 day

TIME2 shows the proportion of time the participant was insured during the family's second contract year.

SOURCE: Family tracking file

TIME2

NUMBER OF OBSERVATIONS	7728
NUMBER OF MISSING	1414
MEAN	0.97
MEDIAN	1.00
MINIMUM VALUE	0.00
MAXIMUM VALUE	1.00
STANDARD DEVIATION	0.14
COEFFICIENT OF VARIATION	14.39
SKEWNESS	-5.08
KURTOSIS	25.89

VARIABLE TIME3 EFC

Time insured during year 3

CODES

. - Uninsured or not present the entire year
0 - Suspended the entire time present, or insured less than 1 day

TIME3 shows the proportion of time the participant was insured during the family's third contract year.

SOURCE: Family tracking file

TIME3

NUMBER OF OBSERVATIONS	7599
NUMBER OF MISSING	1543
MEAN	0.97
MEDIAN	1.00
MINIMUM VALUE	0.00
MAXIMUM VALUE	1.00
STANDARD DEVIATION	0.14
COEFFICIENT OF VARIATION	13.89
SKEWNESS	-5.40
KURTOSIS	29.33

VARIABLE TIME4 EFC

Time insured during year 4

CODES

. - Uninsured or not present the entire year
0 - Suspended the entire time present, or insured less than 1 day

TIME4 shows the proportion of time the participant was insured during the family's fourth contract year.

SOURCE: Family tracking file

TIME4

NUMBER OF OBSERVATIONS	2953
NUMBER OF MISSING	6189
MEAN	0.97
MEDIAN	1.00
MINIMUM VALUE	0.00
MAXIMUM VALUE	1.00
STANDARD DEVIATION	0.15
COEFFICIENT OF VARIATION	15.30
SKEWNESS	-4.89
KURTOSIS	23.74

VARIABLE TIME5 EFC

Time insured during year 5

CODES

. - Uninsured or not present the entire year
0 - Suspended the entire time present, or insured less than 1 day

TIME5 shows the proportion of time the participant was insured during the family's fifth contract year.

SOURCE: Family tracking file

TIME5

NUMBER OF OBSERVATIONS	2883
NUMBER OF MISSING	6259
MEAN	0.97
MEDIAN	1.00
MINIMUM VALUE	0.00
MAXIMUM VALUE	1.00
STANDARD DEVIATION	0.15
COEFFICIENT OF VARIATION	15.03
SKEWNESS	-5.29
KURTOSIS	27.88

VARIABLE DEATHD EFC

Date of death

RANGE

. - As of September 1984, participant had not died
19750414 to 19831005

DEATHD shows a participant's date of death (YYYYMMDD).

SOURCE: Death certificate file

VARIABLE SUSPD1 EFC

First suspension start date

RANGE

. - Never insured or never suspended
19751201 to 19811025

SUSPD1 is the date the enrollee's first suspension started (YYYYMMDD).

SOURCE: Family tracking file

VARIABLE SUSEND1 EFC

First suspension end date

RANGE

. - Never insured or never suspended
19760101 to 19820131

SUSEND1 is the date the enrollee's first suspension ended (YYYYMMDD).

SOURCE: Family tracking file

VARIABLE SUSPD2 EFC

Second suspension start date

RANGE

. - Never insured, never suspended, or suspended only once
19780901 to 19801001

SUSPD2 is the date the enrollee's second suspension started (YYYYMMDD).

SOURCE: Family tracking file

VARIABLE SUSEND2 EFC

Second suspension end date

RANGE

. - Never insured, never suspended, or suspended only once
19781201 to 19801201

SUSEND2 is the date the enrollee's second suspension ended (YYYYMMDD).

SOURCE: Family tracking file

VARIABLE RATTR1 EFC

First reason for attrition

CODES

. - Reason missing
N - Did not attrite
P - Person of interest who attrited (no reason requested)
1 - Opposes socialized medicine or national health insurance
2 - Finds paperwork too much
3 - Asserts that providers will not accept HIE claim form
6 - Is returning or changing to other insurance because of difficulty paying for health care under the HIE
7 - Has problems paying for health care (no mention of other insurance)
8 - Is returning to Medicaid
9 - Cannot understand HIE questionnaires
10 - Is upset about HIE attempts to collect PI overpayments to enrollee
11 - Finds participation too much effort or bother
13 - Believes HIE requires too much personal information
14 - Doesn't like GHC
15 - Is returning or changing to other insurance because it provides better or less expensive coverage, or is more convenient
17 - Is displeased with HIE claims, other payments or services
18 - Is concerned about confidentiality
97 - Is leaving household, or family composition has changed
99 - Reason unspecified

RATTR1 describes the first reason given for attrition.

SOURCE: Reasons for attrition file

RATTR1

VALUE	FREQ	CUM FREQ	%	CUM %
.	8	.	.	.
N	8486	.	.	.
P	250	.	.	.
1	9	9	2.26	2.26
2	99	108	24.87	27.14
3	5	113	1.26	28.39
6	39	152	9.80	38.19
7	7	159	1.76	39.95
8	40	199	10.05	50.00
9	2	201	0.50	50.50
10	2	203	0.50	51.01
11	44	247	11.06	62.06
13	14	261	3.52	65.58
14	26	287	6.53	72.11
15	45	332	11.31	83.42
17	3	335	0.75	84.17
97	12	347	3.02	87.19
99	51	398	12.81	100.00

VARIABLE RATTR2 EFC

Second reason for attrition

CODES

. - Reason missing
N - Did not attrite
P - Person of interest who attrited (no reason requested)
1 - Opposes socialized medicine or national health insurance
2 - Finds paperwork too much
3 - Asserts that providers will not accept HIE claim form
6 - Is returning or changing to other insurance because of difficulty paying for health care under the HIE
7 - Has problems paying for health care (no mention of other insurance)
8 - Is returning to Medicaid
9 - Cannot understand HIE questionnaires
10 - Is upset about HIE attempts to collect PI overpayments to enrollee
11 - Finds participation too much effort or bother
13 - Believes HIE requires too much personal information
14 - Doesn't like GHC
15 - Is returning or changing to other insurance because it provides better or less expensive coverage, or is more convenient
17 - Is displeased with HIE claims, other payments or services
18 - Is concerned about confidentiality
97 - Is leaving household, or family composition has changed
99 - Reason unspecified

RATTR2 describes the second reason given for attrition.

SOURCE: Reasons for attrition file

RATTR2

VALUE	FREQ	CUM FREQ	%	CUM %
.	297	.	.	.
N	8486	.	.	.
P	250	.	.	.
2	12	12	11.01	11.01
3	3	15	2.75	13.76
6	3	18	2.75	16.51
7	18	36	16.51	33.03
8	3	39	2.75	35.78
11	4	43	3.67	39.45
13	16	59	14.68	54.13
14	3	62	2.75	56.88
15	7	69	6.42	63.30
17	4	73	3.67	66.97
18	1	74	0.92	67.89
97	28	102	25.69	93.58
99	7	109	6.42	100.00

VARIABLE RATTR3 EFC

Third reason for attrition

CODES

. - Reason missing
N - Did not attrite
P - Person of interest who attrited (no reason requested)
1 - Opposes socialized medicine or national health insurance
2 - Finds paperwork too much
3 - Asserts that providers will not accept HIE claim form
6 - Is returning or changing to other insurance because of difficulty paying for health care under the HIE
7 - Has problems paying for health care (no mention of other insurance)
8 - Is returning to Medicaid
9 - Cannot understand HIE questionnaires
10 - Is upset about HIE attempts to collect PI overpayments to enrollee
11 - Finds participation too much effort or bother
13 - Believes HIE requires too much personal information
14 - Doesn't like GHC
15 - Is returning or changing to other insurance because it provides better or less expensive coverage, or is more convenient
17 - Is displeased with HIE claims, other payments or services
18 - Is concerned about confidentiality
97 - Is leaving household, or family composition has changed
99 - Reason unspecified

RATTR3 describes the third reason given for attrition.

SOURCE: Reasons for attrition file

RATTR3

VALUE	FREQ	CUM FREQ	%	CUM %
.	398	.	.	.
N	8486	.	.	.
P	250	.	.	.
8	5	5	62.50	62.50
15	2	7	25.00	87.50
97	1	8	12.50	100.00

VARIABLE ATTRHLTH EFC

Health-related attrition

CODES

. - Reason missing
N - Did not attrite
P - Person of interest who attrited (no reason requested)
0 - No
1 - Yes

ATTRHLTH indicates whether a health problem was indicated in the reasons for attrition.

SOURCE: Reasons for attrition file

ATTRHLTH

VALUE	FREQ	CUM FREQ	%	CUM %
.	8	.	.	.
N	8486	.	.	.
P	250	.	.	.
0	354	354	88.95	88.95
1	44	398	11.06	100.00

VARIABLE RTERM EFC

Reason for termination or ineligibility

CODES

. - Reason missing
N - Did not terminate or become a person of interest
P - Person of interest who terminated or became family of interest
1 - Entered military service, Job Corps, or Coast Guard
4 - Accepted Supplemental Security Income (SSI)
5 - Accepted health care under Medicare disability
6 - Accepted health care under Alaska Native Health program
11 - Placed in foster home
12 - Assigned to state institution or jail
16 - Uncooperative
19 - Unlocatable
28 - Lost HMO coverage
32 - Left household
33 - Moved out of HMO service area
34 - Moved out of United States
35 - Accepted health care under CHAMPUS (Civilian Health and Medical Program for Members of the Uniformed Services)

RTERM describes the reason for termination or change to ineligible status.

SOURCE: Reasons for termination file

RTERM

VALUE	FREQ	CUM FREQ	%	CUM %
.	9	.	.	.
N	8554	.	.	.
P	61	.	.	.
1	74	74	14.29	14.29
4	33	107	6.37	20.66
5	24	131	4.63	25.29
6	3	134	0.58	25.87
11	18	152	3.48	29.34
12	13	165	2.51	31.85
16	66	231	12.74	44.60
19	47	278	9.07	53.67
28	147	425	28.38	82.05
32	8	433	1.54	83.59
33	66	499	12.74	96.33
34	11	510	2.12	98.46
35	8	518	1.54	100.00

VARIABLE IFAMILY1 EFC

Insurance family identifier at enrollment

CODES

Blank - Not present at enrollment

IFAMILY1 is an 8-character alphanumeric code that uniquely identifies the insured family to which participant belonged.

SOURCE: Family tracking file

VARIABLE IFAMILY2 EFC

Insurance family identifier year 2

CODES

Blank - Not present at beginning of year 2

IFAMILY2 is an 8-character alphanumeric code that uniquely identifies the insured family to which participant belonged.

SOURCE: Family tracking file

VARIABLE IFAMILY3 EFC

Insurance family identifier year 3

CODES

Blank - Not present at beginning of year 3

IFAMILY3 is an 8-character alphanumeric code that uniquely identifies the insured family to which participant belonged.

SOURCE: Family tracking file

VARIABLE IFAMILY4 EFC

Insurance family identifier year 4 or at 3-year exit

CODES

Blank - Not present at beginning of year 4

IFAMILY4 is an 8-character alphanumeric code that uniquely identifies the insured family to which participant belonged.

SOURCE: Family tracking file

VARIABLE IFAMILY5 EFC

Insurance family identifier year 5

CODES

Blank - Not present at beginning of year 5

IFAMILY5 is an 8-character alphanumeric code that uniquely identifies the insured family to which participant belonged.

SOURCE: Family tracking file

VARIABLE IFAMILY6 EFC

Insurance family identifier at 5-year exit

CODES

Blank - Not present at exit

IFAMILY6 is an 8-character alphanumeric code that uniquely identifies the insured family to which participant belonged.

SOURCE: Family tracking file

VARIABLE RELFAM1 EFC

Relationship to family head at enrollment

CODES

. - Not present at enrollment
1 - Head
3 - Niece, nephew
4 - Grandparent
5 - Child, stepchild
6 - Sibling, stepsister, stepbrother
7 - Parent, stepparent
8 - Daughter-/son-in-law
9 - Sister-/brother-in-law
10 - Mother-/father-in-law
11 - Grandchild
12 - Foster child
13 - Other relative
16 - Other, not related
21 - Daughter, daughter-in-law, stepdaughter, son, son-in-law, stepson
22 - Sister, sister-in-law, stepsister, brother, brother-in-law, stepbrother
23 - Mother, mother-in-law, stepmother, father, father-in-law, stepfather
25 - Miscellaneous

RELFAM1 describes the participant's relationship to the head of the family. If both male and female heads are present, this is the relationship to the female head.

SOURCE: Family tracking file

RELFAM1

VALUE	FREQ	CUM FREQ	%	CUM %
.	1241	.	.	.
1	4459	4459	56.44	56.44
3	10	4469	0.13	56.56
5	2824	7293	35.74	92.31
6	13	7306	0.17	92.47
7	8	7314	0.10	92.57
9	4	7318	0.05	92.62
10	3	7321	0.04	92.66
11	65	7386	0.82	93.48
12	4	7390	0.05	93.53
13	7	7397	0.09	93.62
16	3	7400	0.04	93.66
21	497	7897	6.29	99.95
23	2	7899	0.03	99.98
25	2	7901	0.03	100.00

VARIABLE RELFAM2 EFC

Relationship to family head year 2

CODES

. - Not present at beginning of year 2
1 - Head
3 - Niece, nephew
4 - Grandparent
5 - Child, stepchild
6 - Sibling, stepsister, stepbrother
7 - Parent, stepparent
8 - Daughter-/son-in-law
9 - Sister-/brother-in-law
10 - Mother-/father-in-law
11 - Grandchild
12 - Foster child
13 - Other relative
16 - Other, not related
21 - Daughter, daughter-in-law, stepdaughter, son, son-in-law, stepson
22 - Sister, sister-in-law, stepsister, brother, brother-in-law, stepbrother
23 - Mother, mother-in-law, stepmother, father, father-in-law, stepfather
25 - Miscellaneous

RELFAM2 describes the participant's relationship to the head of the family. If both male and female heads are present, this is the relationship to the female head.

SOURCE: Family tracking file

RELFAM2

VALUE	FREQ	CUM FREQ	%	CUM %
.	1187	.	.	.
1	4531	4531	56.96	56.96
3	9	4540	0.11	57.07
4	1	4541	0.01	57.08
5	2867	7408	36.04	93.12
6	12	7420	0.15	93.28
7	9	7429	0.11	93.39
8	3	7432	0.04	93.43
9	3	7435	0.04	93.46
10	2	7437	0.03	93.49
11	68	7505	0.86	94.34
12	2	7507	0.03	94.37
13	6	7513	0.08	94.44
16	9	7522	0.11	94.56
21	428	7950	5.38	99.94
22	1	7951	0.01	99.95
23	2	7953	0.03	99.98
25	2	7955	0.03	100.00

VARIABLE RELFAM3 EFC

Relationship to family head year 3

CODES

. - Not present at beginning of year 3
1 - Head
3 - Niece, nephew
4 - Grandparent
5 - Child, stepchild
6 - Sibling, stepsister, stepbrother
7 - Parent, stepparent
8 - Daughter-/son-in-law
9 - Sister-/brother-in-law
10 - Mother-/father-in-law
11 - Grandchild
12 - Foster child
13 - Other relative
16 - Other, not related
21 - Daughter, daughter-in-law, stepdaughter, son, son-in-law, stepson
22 - Sister, sister-in-law, stepsister, brother, brother-in-law, stepbrother
23 - Mother, mother-in-law, stepmother, father, father-in-law, stepfather
25 - Miscellaneous

RELFAM3 describes the participant's relationship to the head of the family. If both male and female heads are present, this is the relationship to the female head.

SOURCE: Family tracking file

RELFAM3

VALUE	FREQ	CUM FREQ	%	CUM %
.	1217	.	.	.
1	4572	4572	57.69	57.69
3	8	4580	0.10	57.79
4	1	4581	0.01	57.80
5	2853	7434	36.00	93.80
6	11	7445	0.14	93.94
7	7	7452	0.09	94.03
8	1	7453	0.01	94.04
9	2	7455	0.03	94.07
10	6	7461	0.08	94.15
11	67	7528	0.85	94.99
12	5	7533	0.06	95.05
13	6	7539	0.08	95.13
16	11	7550	0.14	95.27
21	370	7920	4.67	99.94
22	1	7921	0.01	99.95
23	2	7923	0.03	99.98
25	2	7925	0.03	100.00

VARIABLE RELFAM4 EFC

Relationship to family head year 4 or at 3-year exit

CODES

. - Not present at beginning of year 4
1 - Head
3 - Niece, nephew
4 - Grandparent
5 - Child, stepchild
6 - Sibling, stepsister, stepbrother
7 - Parent, stepparent
8 - Daughter-/son-in-law
9 - Sister-/brother-in-law
10 - Mother-/father-in-law
11 - Grandchild
12 - Foster child
13 - Other relative
16 - Other, not related
21 - Daughter, daughter-in-law, stepdaughter, son, son-in-law, stepson
22 - Sister, sister-in-law, stepsister, brother, brother-in-law, stepbrother
23 - Mother, mother-in-law, stepmother, father, father-in-law, stepfather
25 - Miscellaneous

RELFAM4 describes the participant's relationship to the head of the family. If both male and female heads are present, this is the relationship to the female head.

SOURCE: Family tracking file

RELFAM4

VALUE	FREQ	CUM FREQ	%	CUM %
.	1209	.	.	.
1	4620	4620	58.24	58.24
3	5	4625	0.06	58.30
4	4	4629	0.05	58.35
5	2885	7514	36.37	94.72
6	6	7520	0.08	94.79
7	8	7528	0.10	94.90
8	2	7530	0.03	94.92
9	2	7532	0.03	94.95
10	6	7538	0.08	95.02
11	70	7608	0.88	95.90
12	2	7610	0.03	95.93
13	3	7613	0.04	95.97
16	12	7625	0.15	96.12
21	307	7932	3.87	99.99
23	1	7933	0.01	100.00

VARIABLE RELFAM5 EFC

Relationship to family head year 5

CODES

. - Not present at beginning of year 5
1 - Head
3 - Niece, nephew
4 - Grandparent
5 - Child, stepchild
6 - Sibling, stepsister, stepbrother
7 - Parent, stepparent
8 - Daughter-/son-in-law
9 - Sister-/brother-in-law
10 - Mother-/father-in-law
11 - Grandchild
12 - Foster child
13 - Other relative
16 - Other, not related
21 - Daughter, daughter-in-law, stepdaughter, son, son-in-law, stepson
22 - Sister, sister-in-law, stepsister, brother, brother-in-law, stepbrother
23 - Mother, mother-in-law, stepmother, father, father-in-law, stepfather
25 - Miscellaneous

RELFAM5 describes the participant's relationship to the head of the family. If both male and female heads are present, this is the relationship to the female head.

SOURCE: Family tracking file

RELFAM5

VALUE	FREQ	CUM FREQ	%	CUM %
.	6065	.	.	.
1	1807	1807	58.73	58.73
3	1	1808	0.03	58.76
4	1	1809	0.03	58.79
5	1085	2894	35.26	94.05
7	3	2897	0.10	94.15
8	1	2898	0.03	94.18
10	1	2899	0.03	94.22
11	15	2914	0.49	94.70
12	1	2915	0.03	94.74
13	1	2916	0.03	94.77
16	5	2921	0.16	94.93
21	155	3076	5.04	99.97
23	1	3077	0.03	100.00

VARIABLE RELFAM6 EFC

Relationship to family head at 5-year exit

CODES

. - Not present at exit
1 - Head
3 - Niece, nephew
4 - Grandparent
5 - Child, stepchild
6 - Sibling, stepsister, stepbrother
7 - Parent, stepparent
8 - Daughter-/son-in-law
9 - Sister-/brother-in-law
10 - Mother-/father-in-law
11 - Grandchild
12 - Foster child
13 - Other relative
16 - Other, not related
21 - Daughter, daughter-in-law, stepdaughter, son, son-in-law, stepson
22 - Sister, sister-in-law, stepsister, brother, brother-in-law, stepbrother
23 - Mother, mother-in-law, stepmother, father, father-in-law, stepfather
25 - Miscellaneous

RELFAM6 describes the participant's relationship to the head of the family. If both male and female heads are present, this is the relationship to the female head.

SOURCE: Family tracking file

RELFAM6

VALUE	FREQ	CUM FREQ	%	CUM %
.	6089	.	.	.
1	1814	1814	59.42	59.42
3	1	1815	0.03	59.45
5	1061	2876	34.75	94.20
7	3	2879	0.10	94.30
8	1	2880	0.03	94.33
10	1	2881	0.03	94.37
11	18	2899	0.59	94.96
16	5	2904	0.16	95.12
21	148	3052	4.85	99.97
23	1	3053	0.03	100.00

VARIABLE HH1 EFC

Household identifier at enrollment

CODES

Blank - Not present at enrollment

HH1 is an 8-character alphanumeric code that uniquely identifies the household to which participant belonged.

SOURCE: Family tracking file

VARIABLE HH2 EFC

Household identifier year 2

CODES

Blank - Not present at beginning of year 2

HH2 is an 8-character alphanumeric code that uniquely identifies the household to which participant belonged.

SOURCE: Family tracking file

VARIABLE HH3 EFC

Household identifier year 3

CODES

Blank - Not present at beginning of year 3

HH3 is an 8-character alphanumeric code that uniquely identifies the household to which participant belonged.

SOURCE: Family tracking file

VARIABLE HH4 EFC

Household identifier year 4 or at 3-year exit

CODES

Blank - Not present at beginning of year 4

HH4 is an 8-character alphanumeric code that uniquely identifies the household to which participant belonged.

SOURCE: Family tracking file

VARIABLE HH5 EFC

Household identifier year 5

CODES

Blank - Not present at beginning of year 5

HH5 is an 8-character alphanumeric code that uniquely identifies the household to which participant belonged.

SOURCE: Family tracking file

VARIABLE HH6 EFC

Household identifier at 5-year exit

CODES

Blank - Not present at exit

HH6 is an 8-character alphanumeric code that uniquely identifies the household to which participant belonged.

SOURCE: Family tracking file

VARIABLE RELHH1 EFC

Relationship to household head at enrollment

CODES

. - Not present at enrollment
1 - Head
2 - Aunt, uncle
3 - Niece, nephew
4 - Grandparent
5 - Child, stepchild
6 - Sibling, stepsister, stepbrother
7 - Parent, stepparent
8 - Daughter-/son-in-law
9 - Sister-/brother-in-law
10 - Mother-/father-in-law
11 - Grandchild
12 - Foster child
13 - Other relative
16 - Other, not related
21 - Daughter, daughter-in-law, stepdaughter, son, son-in-law, stepson
22 - Sister, sister-in-law, stepsister, brother, brother-in-law, stepbrother
23 - Mother, mother-in-law, stepmother, father, father-in-law, stepfather
25 - Miscellaneous

RELHH1 describes the participant's relationship to the head of the household. If both male and female heads are present, this is the relationship to the female head.

SOURCE: Family tracking file

RELHH1

VALUE	FREQ	CUM FREQ	%	CUM %
.	1241	.	.	.
1	4197	4197	53.12	53.12
2	2	4199	0.03	53.15
3	15	4214	0.19	53.34
5	2892	7106	36.60	89.94
6	33	7139	0.42	90.36
7	15	7154	0.19	90.55
8	10	7164	0.13	90.67
9	7	7171	0.09	90.76
10	4	7175	0.05	90.81
11	115	7290	1.46	92.27
12	5	7295	0.06	92.33
13	8	7303	0.10	92.43
16	66	7369	0.84	93.27
21	519	7888	6.57	99.84
22	2	7890	0.03	99.86
23	2	7892	0.03	99.89
25	9	7901	0.11	100.00

VARIABLE RELHH2 EFC

Relationship to household head year 2

CODES

. - Not present at beginning of year 2
1 - Head
2 - Aunt, uncle
3 - Niece, nephew
4 - Grandparent
5 - Child, stepchild
6 - Sibling, stepsister, stepbrother
7 - Parent, stepparent
8 - Daughter-/son-in-law
9 - Sister-/brother-in-law
10 - Mother-/father-in-law
11 - Grandchild
12 - Foster child
13 - Other relative
16 - Other, not related
21 - Daughter, daughter-in-law, stepdaughter, son, son-in-law, stepson
22 - Sister, sister-in-law, stepsister, brother, brother-in-law, stepbrother
23 - Mother, mother-in-law, stepmother, father, father-in-law, stepfather
25 - Miscellaneous

RELHH2 describes the participant's relationship to the head of the household. If both male and female heads are present, this is the relationship to the female head.

SOURCE: Family tracking file

RELHH2

VALUE	FREQ	CUM FREQ	%	CUM %
.	1187	.	.	.
1	4350	4350	54.68	54.68
2	2	4352	0.03	54.71
3	12	4364	0.15	54.86
4	1	4365	0.01	54.87
5	2911	7276	36.59	91.46
6	28	7304	0.35	91.82
7	12	7316	0.15	91.97
8	15	7331	0.19	92.16
9	4	7335	0.05	92.21
10	3	7338	0.04	92.24
11	119	7457	1.50	93.74
12	2	7459	0.03	93.77
13	6	7465	0.08	93.84
16	39	7504	0.49	94.33
21	442	7946	5.56	99.89
23	2	7948	0.03	99.91
25	7	7955	0.09	100.00

VARIABLE RELHH3 EFC

Relationship to household head year 3

CODES

. - Not present at beginning of year 3
1 - Head
2 - Aunt, uncle
3 - Niece, nephew
4 - Grandparent
5 - Child, stepchild
6 - Sibling, stepsister, stepbrother
7 - Parent, stepparent
8 - Daughter-/son-in-law
9 - Sister-/brother-in-law
10 - Mother-/father-in-law
11 - Grandchild
12 - Foster child
13 - Other relative
16 - Other, not related
21 - Daughter, daughter-in-law, stepdaughter, son, son-in-law, stepson
22 - Sister, sister-in-law, stepsister, brother, brother-in-law, stepbrother
23 - Mother, mother-in-law, stepmother, father, father-in-law, stepfather
25 - Miscellaneous

RELHH3 describes the participant's relationship to the head of the household. If both male and female heads are present, this is the relationship to the female head.

SOURCE: Family tracking file

RELHH3

VALUE	FREQ	CUM FREQ	%	CUM %
.	1217	.	.	.
1	4439	4439	56.01	56.01
3	9	4448	0.11	56.13
4	1	4449	0.01	56.14
5	2890	7339	36.47	92.61
6	21	7360	0.27	92.87
7	10	7370	0.13	93.00
8	9	7379	0.11	93.11
9	2	7381	0.03	93.14
10	7	7388	0.09	93.22
11	118	7506	1.49	94.71
12	5	7511	0.06	94.78
13	7	7518	0.09	94.86
16	26	7544	0.33	95.19
21	376	7920	4.74	99.94
23	2	7922	0.03	99.96
25	3	7925	0.04	100.00

VARIABLE RELHH4 EFC

Relationship to household head year 4 or at 3-year exit

CODES

. - Not present at beginning of year 4
1 - Head
2 - Aunt, uncle
3 - Niece, nephew
4 - Grandparent
5 - Child, stepchild
6 - Sibling, stepsister, stepbrother
7 - Parent, stepparent
8 - Daughter-/son-in-law
9 - Sister-/brother-in-law
10 - Mother-/father-in-law
11 - Grandchild
12 - Foster child
13 - Other relative
16 - Other, not related
21 - Daughter, daughter-in-law, stepdaughter, son, son-in-law, stepson
22 - Sister, sister-in-law, stepsister, brother, brother-in-law, stepbrother
23 - Mother, mother-in-law, stepmother, father, father-in-law, stepfather
25 - Miscellaneous

RELHH4 describes the participant's relationship to the head of the household. If both male and female heads are present, this is the relationship to the female head.

SOURCE: Family tracking file

RELHH4

VALUE	FREQ	CUM FREQ	%	CUM %
.	1209	.	.	.
1	4490	4490	56.60	56.60
3	10	4500	0.13	56.73
4	4	4504	0.05	56.78
5	2921	7425	36.82	93.60
6	15	7440	0.19	93.79
7	9	7449	0.11	93.90
8	10	7459	0.13	94.03
9	6	7465	0.08	94.10
10	7	7472	0.09	94.19
11	117	7589	1.48	95.66
12	2	7591	0.03	95.69
13	4	7595	0.05	95.74
16	26	7621	0.33	96.07
21	311	7932	3.92	99.99
23	1	7933	0.01	100.00

VARIABLE RELHH5 EFC

Relationship to household head year 5

CODES

. - Not present at beginning of year 5
1 - Head
2 - Aunt, uncle
3 - Niece, nephew
4 - Grandparent
5 - Child, stepchild
6 - Sibling, stepsister, stepbrother
7 - Parent, stepparent
8 - Daughter-/son-in-law
9 - Sister-/brother-in-law
10 - Mother-/father-in-law
11 - Grandchild
12 - Foster child
13 - Other relative
16 - Other, not related
21 - Daughter, daughter-in-law, stepdaughter, son, son-in-law, stepson
22 - Sister, sister-in-law, stepsister, brother, brother-in-law, stepbrother
23 - Mother, mother-in-law, stepmother, father, father-in-law, stepfather
25 - Miscellaneous

RELHH5 describes the participant's relationship to the head of the household. If both male and female heads are present, this is the relationship to the female head.

SOURCE: Family tracking file

RELHH5

VALUE	FREQ	CUM FREQ	%	CUM %
.	6065	.	.	.
1	1758	1758	57.13	57.13
3	4	1762	0.13	57.26
4	1	1763	0.03	57.30
5	1100	2863	35.75	93.05
6	4	2867	0.13	93.18
7	4	2871	0.13	93.31
8	5	2876	0.16	93.47
9	2	2878	0.07	93.53
10	1	2879	0.03	93.57
11	28	2907	0.91	94.48
12	1	2908	0.03	94.51
13	1	2909	0.03	94.54
16	8	2917	0.26	94.80
21	159	3076	5.17	99.97
23	1	3077	0.03	100.00

VARIABLE RELHH6 EFC

Relationship to household head at 5-year exit

CODES

. - Not present at exit
1 - Head
2 - Aunt, uncle
3 - Niece, nephew
4 - Grandparent
5 - Child, stepchild
6 - Sibling, stepsister, stepbrother
7 - Parent, stepparent
8 - Daughter-/son-in-law
9 - Sister-/brother-in-law
10 - Mother-/father-in-law
11 - Grandchild
12 - Foster child
13 - Other relative
16 - Other, not related
21 - Daughter, daughter-in-law, stepdaughter, son, son-in-law, stepson
22 - Sister, sister-in-law, stepsister, brother, brother-in-law, stepbrother
23 - Mother, mother-in-law, stepmother, father, father-in-law, stepfather
25 - Miscellaneous

RELHH6 describes the participant's relationship to the head of the household. If both male and female heads are present, this is the relationship to the female head.

SOURCE: Family tracking file

RELHH6

VALUE	FREQ	CUM FREQ	%	CUM %
.	6089	.	.	.
1	1776	1776	58.17	58.17
3	2	1778	0.07	58.24
5	1076	2854	35.24	93.48
6	4	2858	0.13	93.61
7	3	2861	0.10	93.71
8	5	2866	0.16	93.88
9	1	2867	0.03	93.91
10	1	2868	0.03	93.94
11	29	2897	0.95	94.89
16	8	2905	0.26	95.15
21	147	3052	4.82	99.97
23	1	3053	0.03	100.00

Appendix A
PARTICIPATION INCENTIVE PAYMENTS

HIE-insured families were paid a participation incentive (PI) if their HIE plans could conceivably impose a greater financial burden than their existing health insurance policies.[1] Calculated yearly, the PI consisted of (1) an amount calculated to be the *maximum* difference between what the family would have to pay for health care under its HIE insurance plan and what it would have paid under its existing insurance plan, unless (2) the premium a family paid to maintain its existing insurance exceeded the maximum difference. In that case, the family was paid an amount equal to the premium payment.

The calculation of item 1 ignored the family's actual medical expenses. To illustrate, consider family X whose HIE plan specified 95 percent coinsurance up to a maximum out-of-pocket expenditure of $450, above which care was free.[2] Family X's existing insurance specified a $100 deductible, above which the family had to pay 20 percent coinsurance. Under its HIE policy, the family had to spend $473.68 for medical services (with the 5 percent reimbursement) to reach the $450 out-of-pocket maximum. For the same charge under its existing insurance, the family would have paid $100 (the deductible) plus 20 percent of the amount between $100 and $473.68. The maximum difference was thus $473.68 - 100 - 0.2 (473.68 - 100) = 298.94. Family X was entitled to $298.94 per year for that portion of its participation incentive.

The total PI could not exceed the MDE specified in the family's HIE plan unless the family's share of its insurance premium exceeded the MDE. For example, if family X paid an insurance premium of $300, its total PI entitlement was $450, not $598.94 (300 + 298.94). If it paid a

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[1]Participation incentive payments were not offered to families receiving free care (plan A, described on p. 3) who had no premium to pay, families who had no health insurance, and families whose other policies had equal or less generous terms, under all circumstances, than their HIE plan.

[2]In HIE terminology, maximum out-of-pocket expenditure is called "maximum dollar expenditure," or MDE.

premium of $600, its PI was $600. On the other hand, a family who had a high MDE in its HIE plan and an existing insurance policy with 0 percent coinsurance, no deductible, and an employer-paid premium was entitled to the full MDE amount. The purpose of PI payments was to ensure that a family was no worse off financially by participating in the experiment--whether because of the cost of its insurance premium or the "worse" terms of its HIE insurance plan compared with its existing policy.[3]

As encouragement for families to complete their assigned enrollment terms, a portion of the family's annual PI was withheld until the last year of the term.[4] The family received its full annual PI that last year, and the amount previously withheld was paid as part of a completion bonus when the family completed the physical screening examination and medical health questionnaire at exit.[5]

To measure enrollees' responsiveness to PI payments, a subset of families received their full annual PI in the next-to-last, as well as the last, year of their term. That "super PI bonus" was offered to 44.4 percent of the families assigned to insurance plans requiring 95 percent coinsurance, the highest rate (plans K-N, described on p. 4). Super PI recipients represented all sites and both terms of enrollment except Dayton enrollees assigned to three-year terms, who had already begun

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[3]Calculation of PI is further described in Lorraine Clasquin and Marie E. Brown, *Rules of Operation for the Rand Health Insurance Study*, The Rand Corporation, R-1602-HEW, May 1977, pp. 20-21. The formula on p. 20 of that report should read PI = max[K x PG, PR].

[4]The percentage of PI withheld depended on the site and assigned enrollment term, as follows:

	3-yr Term	*5-yr Term*
Dayton	25	15
Seattle	25	15
Fitchburg	33.3	25
Franklin Co.	33.3	25
Charleston	33.3	20
Georgetown Co.	33.3	20

If the discounted PI would not have been enough to reimburse the cost of the family's insurance premium, however, the family received the full amount of its premium. The difference between the premium and the discounted PI was then subtracted from the withheld amount.

[5]The rest of the completion bonus was the largest annual PI to which the family had been entitled during its enrollment (minus the withheld amount) or $120, whichever was greater.

their next-to-last year when super PI was instituted. Within the 95 percent coinsurance plans, super PI recipients were chosen using the "finite selection model." That model was developed by Rand to assign enrollees to experimental insurance plans so that, across plans, families resembled each other in 24 health and socioeconomic characteristics.[6]

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[6]The finite selection model is described in Carl N. Morris, "A Finite Selection Model for Experimental Design of the Health Insurance Study," *Journal of Econometrics*, Vol. 11, 1979, pp. 43-61.

Appendix B
HIE DATA FILES

This appendix identifies the data files that the HIE has either issued or expects to issue, grouped in topical series. As a tape of each file is issued, a companion codebook is published as a Rand Note. One Note may contain the codebooks for several files. In addition to issuing files and codebooks, HIE staff will prepare a user's guide to provide assistance in understanding and using the HIE database for analysis.

The list below cites codebooks for the files that have been issued, and file names for those not yet issued. At this time it is impossible to predict exact issue dates for future files and codebooks. This preliminary list is to alert prospective users to the variety of subject matter covered by the HIE database and to the existence of related files that should be used together.

Before ordering a file or codebook, be sure to verify its availability with the Rand Publications Department, using the reference numbers cited below (e.g., MS3).

ISSUED TO DATE

Master Sample Series

MS1. *Vol. 1: Codebook for Eligibility-Family Changes File*, by S. M. Polich and C. d'Arc Taylor, The Rand Corporation, N-2264/1-HHS, May 1986.

MS2. *Vol. 2: Codebook for Full Sample Demographic File*, by S. M. Polich et al., The Rand Corporation, N-2264/2-HHS, May 1986.

Aggregated Claims Series

AC1. *Vol. 1: Codebook for FFS Annual Expenditures and Visit Counts*, by C. E. Peterson, M. Nelsen, and E. S. Bloomfield, The Rand Corporation, N-2360/1-HHS, May 1986.

TO BE ISSUED

Master Sample Series

MS3. Supplemental data file

Aggregated Claims Series

AC2. FFS outpatient visits

AC3. FFS inpatient visits

AC4. FFS dental visits

AC5. FFS treatment episodes

AC6. FFS annual episode counts

AC7. HMO and Seattle FFS annual expenditures and visit counts

AC8. HMO and Seattle FFS outpatient visits

AC9. HMO and Seattle FFS inpatient visits

Claims Line-Items Series

LI1. FFS data: hospital inpatient services

LI2. FFS data: inpatient physician procedures billed by institutions

LI3. FFS data: drugs prescribed by physicians

LI4. FFS data: supplies prescribed by physicians

LI5. FFS data: services rendered by physicians

LI6. FFS data: drugs sold by physicians

LI7. FFS data: supplies sold by physicians

LI8. FFS data: injections administered by physicians

L19. FFS data: outpatient services billed by institutions

LI10. FFS data: services rendered by dentists

LI11. FFS data: drugs prescribed by dentists

LI12. FFS data: drugs purchased

LI13. FFS data: supplies purchased from pharmacies

LI14. FFS data: supplies purchased from nonpharmacy suppliers

LI15. Seattle HMO data: hospital inpatient services

LI16. Seattle HMO data: inpatient physician services

LI17. Seattle HMO data: drugs prescribed by physicians

LI18. Seattle HMO data: supplies prescribed by physicians

LI19. Seattle HMO data: services rendered by physicians

LI20. Seattle HMO data: drugs dispensed by physicians

LI21. Seattle HMO data: supplies dispensed by physicians

LI22. Seattle HMO data: injections administered by physicians

LI23. Seattle HMO data: outpatient services provided by institutions

LI24. Seattle HMO data: drugs dispensed

LI25. Seattle HMO data: supplies dispensed

LI26. Seattle FFS data for HMO comparison: hospital inpatient services

LI27. Seattle FFS data for HMO comparison: inpatient physician procedures billed by institutions

LI28. Seattle FFS data for HMO comparison: outpatient services rendered by physicians

LI29. Seattle FFS data for HMO comparison: injections administered by physicians

LI30. Seattle FFS data for HMO comparison: outpatient services billed by institutions

HIE Reference Series

RF1. Codes used in HIE claims: diagnoses, symptoms, procedures, drugs, and supplies

RF2. Providers cited in HIE data

Medical Disorder Series

MD1. Adult medical disorders at enrollment and exit

MD2. Infant and child medical disorders at enrollment and exit

Health Status and Attitude Series

HS1. Adults at enrollment and exit

HS2. Children at enrollment and exit

Medical History Questionnaire Series

MH1. Dayton adults at enrollment

MH2. NonDayton adults at enrollment

MH3. Adults at exit

MH4. Dayton children at enrollment

MH5. NonDayton children at enrollment

MH6. Children at exit

MH7. Dayton infants at enrollment

MH8. NonDayton infants at enrollment

MH9. Infants at exit

Appendix C
FILE DICTIONARY

This appendix describes the character version of the eligibility-family changes file in technical terms. Basic identifying data (Table C.1) are followed by lists showing the location (starting column), length, and type of each variable (Tables C.2 and C.3).

Table C.1

BASIC IDENTIFYING DATA

Data file name	DSE0AA01.PUF.DATA
Creation date	October 2, 1985
Variable format	Character
Total number of data elements	54
Header length (bytes)	20
Primary data length (bytes)	392
Record length (bytes)	412

Table C.2

LISTING BY ALPHABETIC ORDER

Name	Location	Length	Type	Name	Location	Length	Type
ADDYR	85	8	I	RATTR3	197	8	I
*ATTRHLTH	205	8	I	RELFAM1	269	8	I
DEATHD	141	8	I	RELFAM2	277	8	I
DROPYR	93	8	I	RELFAM3	285	8	I
ENDEXP	69	8	I	RELFAM4	293	8	I
ENDINS	53	8	I	RELFAM5	301	8	I
ENRDATE	37	8	I	RELFAM6	309	8	I
FILENAME	1	6	A	RELHH1	365	8	I
FILLER	17	4	A	RELHH2	373	8	I
FIRSTC	29	8	I	RELHH3	381	8	I
HH1	317	8	A	RELHH4	389	8	I
HH2	325	8	A	RELHH5	397	8	I
HH3	333	8	A	RELHH6	405	8	I
HH4	341	8	A	RENDEXP	77	8	I
HH5	349	8	A	RENDINS	61	8	I
HH6	357	8	A	*RTERM	213	8	I
IFAMILY1	221	8	A	SITE	15	1	I
IFAMILY2	229	8	A	STARTD	45	8	I
IFAMILY3	237	8	A	SUSEND1	157	8	I
IFAMILY4	245	8	A	SUSEND2	173	8	I
IFAMILY5	253	8	A	SUSPD1	149	8	I
IFAMILY6	261	8	A	SUSPD2	165	8	I
INSTAT	16	1	I	TIME1	101	8	F
PERINT	21	8	I	TIME2	109	8	F
PERSON	7	8	A	TIME3	117	8	F
*RATTR1	181	8	I	TIME4	125	8	F
*RATTR2	189	8	I	TIME5	133	8	F

NOTE: "Type" refers to whether the variable values are alphanumeric (A), integer (I), or fixed-decimal in 8.6 format (F). Missing values are represented differently for each type: A = bbbbbbbb, I = bbbbbbb., and F = b.bbbbbb ("b" meaning blank). Asterisks indicate variables with special missing values in the form bbbbbbbN and bbbbbbbP. To obtain the appropriate positive and missing values, read all values as alphanumeric, then convert "I" data to integers and "F" data to 8.6 format.

Table C.3

LISTING BY LOCATION

Name	Location	Length	Type	Name	Location	Length	Type
FILENAME	1	6	A	*RATTR3	197	8	I
PERSON	7	8	A	*ATTRHLTH	205	8	I
SITE	15	1	I	*RTERM	213	8	I
INSTAT	16	1	I	IFAMILY1	221	8	A
FILLER	17	4	A	IFAMILY2	229	8	A
PERINT	21	8	I	IFAMILY3	237	8	A
FIRSTC	29	8	I	IFAMILY4	245	8	A
ENRDATE	37	8	I	IFAMILY5	253	8	A
STARTD	45	8	I	IFAMILY6	261	8	A
ENDINS	53	8	I	RELFAM1	269	8	I
RENDINS	61	8	I	RELFAM2	277	8	I
ENDEXP	69	8	I	RELFAM3	285	8	I
RENDEXP	77	8	I	RELFAM4	293	8	I
ADDYR	85	8	I	RELFAM5	301	8	I
DROPYR	93	8	I	RELFAM6	309	8	I
TIME1	101	8	F	HH1	317	8	A
TIME2	109	8	F	HH2	325	8	A
TIME3	117	8	F	HH3	333	8	A
TIME4	125	8	F	HH4	341	8	A
TIME5	133	8	F	HH5	349	8	A
DEATHD	141	8	I	HH6	357	8	A
SUSPD1	149	8	I	RELHH1	365	8	I
SUSEND1	157	8	I	RELHH2	373	8	I
SUSPD2	165	8	I	RELHH3	381	8	I
SUSEND2	173	8	I	RELHH4	389	8	I
*RATTR1	181	8	I	RELHH5	397	8	I
*RATTR2	189	8	I	RELHH6	405	8	I

NOTE: "Type" refers to whether the variable values are alphanumeric (A), integer (I), or fixed-decimal in 8.6 format (F). Missing values are represented differently for each type: A = bbbbbbbb, I = bbbbbbb., and F = b.bbbbbb ("b" meaning blank). Asterisks indicate variables with special missing values in the form bbbbbbbN and bbbbbbbP. To obtain the appropriate positive and missing values, read all values as alphanumeric, then convert "I" data to integers and "F" data to 8.6 format.

GLOSSARY

Adjunct enrollee	Uninsured member of insured family/household (person/family of interest) or member of Dayton control group.
Attrition	Departure from the experiment by voluntary withdrawal before completion of assigned enrollment term.
Baseline participant	Person considered for enrollment at the beginning of the experiment in the site. May or may not have enrolled.
Baseline-only participant	Person considered for enrollment at the beginning of the experiment in the site who did not enroll.
Contract year	Administrative unit of time for enrollees; year period(s) reckoned from date family signed enrollment contract. First contract year began on enrollment date, second contract year began on first anniversary of enrollment, and so on.
Dayton control group	Group of 669 uninsured enrollees who participated from November 1974 to February 1976. Formed to compare the community's use of health services with use by insured Dayton enrollees. Members retained their own insurance but were asked to complete the same questionnaires as insured enrollees. Group was discontinued because complete data appeared unobtainable from them. Not included in eligibility-family changes file.
EFC	Eligibility-family changes (file name).
Enrollee	Person whose family or household signed an enrollment contract with the HIE. Includes insured and uninsured persons. Any of the following: HIE-insured, HMO-insured, person of interest, family of interest, member of Dayton control group. (See "primary enrollee," "secondary enrollee," "adjunct enrollee.")
Exit	Departure from the experiment after completion of assigned enrollment term, three or five years.
Experimental insurance treatment	One of sixteen groups in which experimental subjects participated. Fifteen were insurance plans with varying coinsurance rates, out-of-pocket expenditure limits, and both FFS and HMO delivery systems. The sixteenth was the HMO control group.

Family of interest	Uninsured, self-supporting member of insured family or member of uninsured self-supporting family residing in the household of an insured family. Compare "person of interest." Not included in eligibility-family changes file.
GHC	Group Health Cooperative of Puget Sound, the Seattle HMO that participated in the experiment.
HIE	Health Insurance Experiment.
HIE-insured	Enrollee assigned to an experimental health insurance plan paid by the HIE (plans A-O, described on pp. 3-4). Includes members of HMO experimental group. Compare "HMO-insured."
HMO	Health maintenance organization; Group Health Cooperative of Puget Sound, the HMO that participated in the HIE.
HMO control group	Seattle enrollees drawn at random from existing HMO members who met HIE eligibility criteria. The HIE did not pay their insurance premiums.
HMO experimental group	Seattle enrollees experimentally transferred to HMO from fee-for-service system. The HIE paid their insurance premiums.
HMO-insured	Member of HMO control group.
Insured	Either HIE-insured or HMO-insured.
MDE	Maximum dollar expenditure--maximum out-of-pocket expense to be paid by HIE-insured family before health care was free. The amount was a function of the family's assigned insurance plan.
Participant	Anyone with a record in the HIE database; includes baseline-only participants and enrollees.
PEG	South Carolina preenrollment group.
Person of interest	Uninsured member of insured family/household who was financially dependent on insured family/household. Compare "family of interest."
Preenrollee	Person who participated in preenrollment phase in South Carolina; PEG member. May or may not have formally enrolled in the experiment as a primary enrollee.
Primary enrollee	Baseline participant who enrolled and was insured.

SAS	Statistical Analysis System. HIE files contain data in both SAS and character formats.
Secondary enrollee	Person who enrolled and was insured after his/her family enrolled.
Suspension	Revocation of HIE-provided insurance benefits because of ineligibility expected to be temporary. Suspended persons remained enrollees.
Termination	Involuntary departure from the experiment. Cancellation of enrollment for permanent ineligibility or failure to fulfill obligations.
Uninsured	Neither HIE-insured nor HMO-insured. Person/family of interest or member of Dayton control group. Uninsured persons did not necessarily lack health insurance; they were uninsured only with respect to HIE experimental treatments.