N-2360/1-HHS

AGGREGATED CLAIMS SERIES

Volume 1: CODEBOOK FOR FEE-FOR-SERVICE ANNUAL EXPENDITURES AND VISIT COUNTS

C. E. Peterson, M. Nelsen, E. S. Bloomfield

May 1986

HEALTH INSURANCE EXPERIMENT

Rand
SANTA MONICA, CA.

The research reported herein was performed pursuant to Grant No. 016B-8001 from the U.S. Department of Health and Human Services, Washington, D.C.

Published by The Rand Corporation

N-2360/1-HHS

AGGREGATED CLAIMS SERIES

Volume 1: CODEBOOK FOR FEE-FOR-SERVICE ANNUAL EXPENDITURES AND VISIT COUNTS

C. E. Peterson, M. Nelsen, E. S. Bloomfield

May 1986

HEALTH INSURANCE EXPERIMENT

Rand
SANTA MONICA, CA.

PREFACE

The codebook presented here 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 on tape, grouped in topical series, with associated volumes of documentation. This volume is the first of five volumes in the aggregated claims series, a series of derived-variable files that present aggregations of primary-variable data from the claims line-item files of the HIE.

The fee-for-service (FFS) annual expenditures and visit counts file documents *yearly* health care expenditures and visit totals for each HIE participant who used private, fee-for-service medical or dental care during the course of the HIE. Only FFS usage by FFS participants is presented here, with one exception: FFS dental usage data for HIE participants enrolled in a health maintenance organization are included in the dental expenditures and visit counts.

This file is useful for obtaining counts of yearly health visits by type of visit, and summations of the yearly expenditures for those types of visits. Drawing on these annual summations, analysts can quickly and economically identify FFS participants of interest for further study.

ACKNOWLEDGMENTS

This Note has benefited from the help and advice of our Rand colleagues. We especially want to thank Will Manning and Bernadette Benjamin, who guided us through the intricacies of the data and were always ready and available for our questions. Christina Witsberger gave us helpful comments during the early stages of the document's development. Betty Amo and Joice Polin assembled and prepared the final documentation. Thanks to Sally Trude, who provided a thoughtful and incisive review, and to Christine d'Arc Taylor, who wrote the introduction to the Health Insurance Experiment that appears as the first section in this volume. Final production of the Note was supervised by Pat Bedrosian. Finally, we want to thank Joseph Newhouse for his guidance and support.

CONTENTS

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 fee-for-service annual expenditures and visit counts file. Section III presents the codebook.

EXPERIMENTAL DESIGN

The Rand Corporation conducted the HIE 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 prepaid group practice.[2]

Over the course of the experiment, information of some kind was obtained for 26,148 persons. A total of 24,340 persons were administered a baseline interview (*baseline participants*[3]), of which 7,700 were ultimately enrolled.[4] An additional 554 persons were enrolled later, all but a few of them newborns or adopted children

---

[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.

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

[4]The 15,411 persons who did not enroll are called *baseline-only participants*.

under one year of age. Those 8,254 *insured enrollees* were assigned to an experimental health insurance treatment, and data on their use of health services were collected throughout their period of participation.[5] Another 2,483 *adjunct enrollees* were not assigned to an insurance treatment but resided with insured enrollees or were members of a short-lived control group in Dayton.

Selection of Enrollees

Persons offered enrollment in the experiment represent a random sample from each site, subject to certain eligibility restrictions.[6] They were chosen by a two-stage baseline selection 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).
- Veterans with service-connected disabilities.
- Those in the military and their dependents.[7]

---

[5]Note that "insured" in HIE terminology means only "assigned to an experimental treatment." By the same token, "uninsured" applies only to a participant not so assigned, not necessarily someone lacking health insurance altogether.

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

[7]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.

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.[8]

Experimental Treatments

Sixteen experimental treatments distinguished among 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 health maintenance organization (HMO), the most common form of prepaid group practice:

A. Free care (0% coinsurance) (one plan).

B-D. Family pays 25% of its medical bills (25% coinsurance) (three plans).

E-G. 50% coinsurance (three plans).

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

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

---

[8]The logic and techniques used to determine optimal sample sizes and to 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.

N. 95% coinsurance on outpatient services; 0% on hospital care (one plan).[9]

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

Plans requiring coinsurance (B-N) placed a ceiling on annual out-of-pocket expenditures, above which care was free.[10] 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[11]
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

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

---

[9]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.

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

[11]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.

plan O. 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-O 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.[12]

Table 1 indicates the timing of enrollment in the experiment and number of enrollees insured immediately after the baseline selection process 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 8,254 insured enrollees, who participated in the experiment longest. The 15,411 baseline-only participants provided much demographic and socieoeconomic data, as well as information on health status, experience with health care, and health-related attitudes. Limited data were obtained for the 2,483 adjunct enrollees.

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

[12]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 enrollees insured immediately after the baseline selection process. An additional 554 persons were enrolled and insured later, nearly all of them newborns or adopted children under 1 year of age. 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	4-6 months before enrollment	Baseline participants
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, 3 versions by age group: 0-2 years 3-13 years 14+ years	Physiologic tests	Paramedical personnel	Just before enrollment and exit	Sample of insured enrollees at enrollment; 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.

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 logical consistency and adherence to specified response ranges; outliers were checked only 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.[13] 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.

The machine-readable tape for each file includes data in both SAS[14] (Statistical Analysis System) and character formats, and an index of character-format variables.[15]

---

[13]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.

[14]A registered trademark of the SAS Institute, Inc.

[15]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.

A codebook is also provided for each file. This volume contains the codebook for the fee-for-service annual expenditure and visit counts file, a derived variable file in the aggregated claims series. Section II describes the file and its place in the series; Sec. III presents the codebook.

II. FEE-FOR-SERVICE ANNUAL EXPENDITURES AND VISIT COUNTS FILE

The fee-for-service (FFS) annual expenditures and visit counts file documents yearly total expenditures and visit counts by type of care for HIE participants who used private, fee-for-service health and dental care during the HIE. A record exists for each year in which a participant was eligible for HIE coverage. Annual expenditure totals and visit counts represent only those expenditures and visits that were covered by HIE insurance plans and for which claims were submitted. Thus the totals provided in this file do not reflect an individual's use of noncovered or unbilled services in a given year. In addition, the expenditure and visit counts variables on this file *cannot* be used to obtain the average expenditure per visit because the expenditure variables may include services *not* reflected in the visit counts.

The expenditure variables included on the file are presented in Table 3 and the visit counts variables are listed in Table 4. In this section we discuss the sample population and derivation of file variables as well as the use of the codebook. The codebook is found in Sec. III. It presents specific descriptions and constructions of each variable in the file. A file dictionary that offers a technical description of the file, including the location and length of each variable, is provided in Appendix C.

THE SAMPLE

The FFS annual expenditures and visit counts file includes all participants who were ever insured by the HIE (7,438 individuals). This includes participants enrolled in the HMO experimental group at Group Health Cooperative (GHC) in Seattle, Washington. However, *only the FFS dental expenditures and visit counts of HMO participants are presented in this file.* The HIE offered free dental coverage to GHC experimental group members, and this dental care was procured in the fee-for-service sector. Therefore, FFS dental data for HMO participants are given in this file, and all *nondental* FFS expenditure and visit counts variables

Table 3

EXPENDITURE VARIABLES ON THE FFS
ANNUAL EXPENDITURES AND VISIT COUNTS FILE

Variable	Charges Included	Charges Excluded
INPDOL Inpatient Expenses	All covered inpatient expenses in a hospital, mental hospital, or nursing home	Outpatient care, renal dialysis
MENTDOL Psychotherapy Expenses	All covered outpatient psychotherapy services including injections	Charges for visits in excess of 52 per year, prescription drugs, inpatient care
OUTPDOL Outpatient Expenses	All covered outpatient medical services	Dental care, outpatient psychotherapy, outpatient drugs or supplies
DRUGDOL Drug Expenses	All covered outpatient and dental drugs (includes certain non-prescription drugs listed in Appendix F)	
SUPPDOL Supply Expenses	All covered outpatient supplies including dental	
DENTDOL Dental Expenses	All covered dental services	Drugs, supplies, Inpatient dental
MEDDOL Medical Expenses	All covered inpatient and outpatient services, including drugs, supplies, and inpatient costs of newborns	Dental care, outpatient psychotherapy

Table 4

VISIT COUNTS VARIABLES ON THE FFS
ANNUAL EXPENDITURES AND VISIT COUNTS FILE

Variable	Summary
MENTVIS Psychotherapy Visits	Annual number of covered outpatient visits for psychotherapy
DENTVIS Dental Visits	Annual number of covered visits for dental services
MDVIS Face-to-Face Visits to Physicians	Annual covered outpatient visits with physician providers (excludes dental, psychotherapy, and radiology/anesthesiology/pathology-only visits)
NONMDVIS Face-to-Face Visits to Nonphysicians	Annual covered outpatient visits with nonphysician providers such as speech and physical therapists, chiropractors, podiatrists, acupuncturists, Christian Science healers, etc. (excludes dental, psychotherapy, and radiology/anesthesiology/pathology-only visits)
TOTADM Hospital Admissions	Annual number of covered hospitalizations
MATADM Maternity Hospital Admissions	Annual covered hospitalizations for delivery-related maternity care
PREGADM Pregnancy-Related Hospital Admissions	Annual covered hospitalizations in which pregnancy was a factor

have values of a dot (.), indicating "not applicable." The nondental annual expenditure and visit count totals of HMO participants are found in the HMO annual expenditures and visit counts file.[1]

The insurance plan status (HMO or FFS) used for participants in this file is the insurance status of the individual's *family* at the *beginning* of the experiment. During the experiment, 23 percent of HMO experimental group participants moved away from the area served by GHC and many of them changed to the FFS free plan (0% coinsurance) after the move. Thus, such participants are listed as HMO participants in this file, even in the years after the change in plan. HMO participants who changed plans are identified in the supplemental data file[2] of the master sample series. We discuss the master sample series later in this section.

UNIT OF OBSERVATION

The unit of observation in this file is a *person/contract year*; that is, each variable on this file presents data for a given person during a given contract year (or portion of a contract year during which the person was insured by the HIE). To discover the time span of an individual's coverage, reference must be made to the eligibility-family changes file[3] of the master sample series. The number of records per person varies because some individuals were enrolled for three years and others for five years. If a participant did not use medical or dental services during a given year, the expenditure and visit count variable values for that participant and year equal zero.

---

[1]To be issued as part of HIE documentation. See Appendix B for order information.

[2]To be issued as part of HIE documentation. See Appendix B for order information.

[3]S. M. Polich and C. d'Arc Taylor, *Master Sample Series, Vol. 1: Codebook for Eligibility-Family Changes File*, The Rand Corporation, N-2264/1-HHS, May 1986.

ANNUAL EXPENDITURE VARIABLES

As indicated in Table 3, only *covered* expenditures are summed in this file. Covered expenditures are defined as all health expenditures except those specifically not covered by the participant's HIE insurance plan.[4] The covered expenditure totals presented include all expenses of the visit that were reimbursed by the HIE *plus the portion of costs that the participant paid toward his/her deductible or coinsurance rate.* Thus, coinsurance charges were not subtracted from the expenditure totals. All expenditures in this file are listed in dollars and cents for the year of service, unadjusted for inflation.[5]

Associated with the medical expenditure variables are three expenditure indicator variables listed in Table 5. Two variables, POSINP and POSMED, serve to quickly indicate whether participants had inpatient or medical expenditures. This information is useful in enabling users to drop participants with zero expenditures from the file if they so desire. The variable INPMIS indicates participants with incomplete inpatient records because of inpatient physician bills. In such cases, the expenditure totals in INPDOL and MEDDOL are lower than the level of the true expenditures for inpatient and overall medical services.

ANNUAL VISIT COUNTS VARIABLES

The visit counts variables described in Table 4 provide the annual totals of covered visits only. Covered visits are defined as those in which any part of the visit expenditure was covered by the HIE. Noncovered visits, i.e., those in which *only* noncovered services were rendered, are not reflected in this file. Such noncovered visits include those related to injuries sustained in accidents that were paid for by other insurance companies (e.g., workers' compensation). Also not reflected in these counts are *unbilled* visits. Thus, visits that

---

[4]Appendix D lists the possible reasons for noncoverage of a service by the HIE. All plans provided the same benefits.

[5]A projected user's guide to the HIE will include a medical price index for use in adjusting these monetary amounts to real dollars. Users can also refer to the Bureau of Labor Statistics consumer price index.

Table 5

EXPENDITURE INDICATOR VARIABLES

Variable	Indication Given
POSINP Positive Inpatient Expenditures	Presence of inpatient expenses
POSMED Positive Medical Expenditures	Presence of medical expenses
INPMIS Incomplete Hospital Records	Missing inpatient records

not reflected in these counts are *unbilled* visits. Thus, visits that were paid for as part of one lump sum, such as prenatal visits, do not show up in the visit counts.

Outpatient Visit Counts

Annual outpatient visits to physicians or nonphysician medical providers (therapists, acupuncturists, etc.) are counted in the variables MDVIS and NONMDVIS. Such visits were counted *only* if they were "face-to-face" visits. A visit is defined as face-to-face if there was an element of direct evaluation or treatment.[6] Visits in which only radiology, pathology, or anesthesiology services were rendered are *not* included because they are considered to be extensions of the face-to-face visits at which they were ordered. Such service-only visits arise because the services were billed separately from the visit ordering them. Although a few such service-only visits may have been unrelated to physician visits, the vast majority are related, and HIE analysts chose to exclude service-only visits to avoid double-counting visits.

[6]See Table 9 in the codebook section of this documentation for the list of procedures that define a visit as face-to-face.

Hospitalizations

Annual covered hospital admissions are included in the visit counts. Single hospitalizations that span two or more accounting years are assigned to the year of admission, reflecting their treatment for insurance purposes in the HIE. Back-to-back hospitalizations at the same hospital were merged into a single hospitalization. Back-to-back hospitalizations are defined as those in which the second admission was within one day of discharge from the first admission and *was for the same or a related illness or condition.*[7]

LIMITATIONS

There are several key limitations associated with the FFS annual expenditures and visit counts file. Although some have already been mentioned, they are important enough to warrant reiteration.

- There is no direct correspondence between outpatient visit counts and expenditures on this file, and thus the variables cannot be used to calculate an average expenditure per visit type.[8] The reasons for this are: (1) The outpatient visit counts variables sum only face-to-face visits and the outpatient expenditure variable sums charges from face-to-face *and* non-face-to-face visits; (2) psychotherapy visit counts include initial office visits to mental health providers that may not have had a psychotherapy procedure rendered, and the psychotherapy expenditures variable sums *only* expenses associated with psychotherapy procedures.
- Visit count totals do not include noncovered or unbilled visits and thus may not represent the individual's entire medical usage in a given year.

---

[7]An exception was made for maternity hospitalizations. If a patient was admitted for false labor, considered a pregnancy-related hospitalization, and was subsequently admitted for delivery of the infant, the admissions were not merged.

[8]An exception is dental visits and costs, which are directly comparable because all dental visits are considered face-to-face.

- Expenditure variables represent only covered expenses and thus may not reflect the individual's actual total medical expenses.
- Fee-for-service medical usage by HMO participants is not reflected in this file. Only FFS dental usage is presented for HMO participants.
- A participant's insurance status (FFS or HMO) is based on the plan in which the participant's family was enrolled at the beginning of the study. Thus, any change in plan from HMO to FFS is not reflected in this file. All nondental FFS expenditures incurred by those families initially enrolled as HMO experimentals are excluded from these data, even if they occurred after the family changed from the HMO to a FFS plan.

RELATED FILES

Master Sample Series

To select analytic subsamples using particular demographic and eligibility criteria, reference to the master sample series will be necessary. Volume I provides data concerning eligibility and family changes among enrollees.[9] Volume II, the full sample demographic file, presents demographic data for all enrollees and anyone considered for enrollment.[10] Volume III, the supplemental data file, contains supplemental data including information about eligible people who refused to enroll and Seattle HMO participants who moved away from Seattle. It also contains the code identifiers that link newborns to their mothers.[11]

---

[9]Polich and d'Arc Taylor, op. cit.

[10]S. M. Polich and C. d'Arc Taylor, *Master Sample Series, Vol. II: Codebook for Full Sample Demographic File*, The Rand Corporation, N-2264/2-HHS, May 1986.

[11]To be issued as part of HIE documentation. The contents of this volume have not been finalized. See Appendix B for order information.

Claims Line-Item Series

Expenditures and visit counts data in this file were aggregated from the primary-variable files of the fee-for-service claims line-item series.[12] It is strongly recommended that users familiarize themselves with the contents and data collection methods of the claims line-item files because they are the basis of all the aggregated claims files.

The units of observation within the claims line-item files are the "line items"--the charged services,[13] drugs, or supplies rendered to the HIE participants. Records of line-item charges were divided into 14 files according to the type of health service provided. Appendix E lists the FFS claims line-item files and offers a sample of variables found in each file.

To reconstruct individual patient histories, reference must be made to the claims line-item files, which contain all the records of each participant's claimed health services during the HIE.[14]

Aggregated Claims Series

The fee-for-service annual expenditures and visit counts file is a part of the aggregated claims series. In the aggregated claims series, primary variable data from the claims line-item files have been aggregated in different ways to suit different research purposes. Table 6 lists the files found in the aggregated claims series, with a brief description of some of the important variables in each.

---

[12]To be issued as part of HIE documentation. See Appendix B for order information.

[13]The services of physicians and independent health professionals were recorded using California Relative Value Studies (CRVS) codes. CRVS codes were taken from the 1974 Revision, 5th Edition, of the *California Relative Value Studies*, published in 1975 by the California Medical Association, San Francisco, CA.

[14]During the creation of the annual expenditures and annual visit counts file, data inconsistencies found in the claims line-item files were resolved by HIE analysts according to their analytic need. These minor adjustments are not documented, and thus other analysts will not be able to *exactly* replicate all of the data found in this file.

Table 6

AGGREGATED CLAIMS SERIES

File	Sample	Variables
FFS annual expenditures and visit counts	All insured FFS participants; one record per person per year	Annual totals for inpatient, outpatient, mental, and dental expenditures; annual counts of hospitalizations, physician visits, nonphysician visits, mental health visits, and dental visits.
HMO annual expenditures and visit counts (includes Seattle FFS)	All insured Seattle FFS and HMO participants and HMO control group in Seattle; one record per person per year	Annual totals for inpatient, outpatient, mental, and dental expenditures; annual counts of hospitalizations, physician visits, nonphysician visits, mental health visits, and dental visits.
FFS visits -inpatient -outpatient -dental	Claims for health services for FFS-insured persons only; dental file includes claims for all insured persons; one record per person-provider-date of service	Covered expenses, visit type, diagnosis, procedure codes.
HMO and Seattle FFS visits -inpatient -outpatient	Claims for health services for insured Seattle FFS and HMO participants; one record per person-provider-date of service	Imputed expenses, visit type, diagnosis, procedure codes.
FFS treatment episodes and annual episode counts	Episode of treatment for insured FFS participants; one record per episode	Covered expenses summed by episode of treatment, diagnosis, episode type, amount of maximum dollar expenditure (MDE) remaining at beginning and end of episode.
	Episode counts and expenditures for insured FFS participants; one record per person per year	Annual episode counts and expenditures summed by type: acute, chronic, well care, outpatient, dental, and hospital.

CODEBOOK DESCRIPTION

Header Variables

Five header variables are placed at the front of the file codebook. They are FILENAME, PERSON, SITE, INSTAT, and CONTYR.

FILENAME denotes the particular file. PERSON identifies each respondent by person number, permitting data to be gathered for a certain person across all files. SITE contains codes to identify each site, INSTAT indicates the participant's insured status (in this file, INSTAT=1 on all records), and CONTYR indicates the contract year of coverage for which data were gathered.[15]

Variable COVEXP

Following the header variables is COVEXP, a special variable created to instruct that only covered expenses are summed. COVEXP is a *temporary* variable created within the construction of some derived variables on this file. It is *not* found on the data file itself. However, COVEXP's construction is presented in the codebook so that its use in the construction of other variables is clearly understood.

Variable Descriptions and Constructions

The variable descriptions in the codebook are arranged in boxes. Any unusual variations in a variable's data, or warnings concerning its use, are noted directly beneath the box. The subheading "SOURCE" beneath the box shows the source files and primary variables used in constructing the derived variable.

Variable constructions are written in pseudo-code, a summarized and compacted version of the actual SAS programming codes used to create each variable. All derived variables in pseudo-code are assumed to be initialized to zero. The subheading "VARIABLE VALUES" defines the variable values used in the construction of the SAS pseudo-code. Below we provide examples of the expenditures variable INPDOL and the visit counts variable MENTVIS. Explanations are offered in italics and do not appear in the codebook.

---

[15]Each contract year may span two calendar years; the calendar years for the sites are described in Sec. I.

Codebook Example #1:

VARIABLE INPDOL *(Variable name)* — FFS ANNUAL EXPENDITURES/COUNTS

Inpatient expenses *(Variable label)*

(Variable explanation:)
INPDOL indicates the sum of a participant's annual covered expenses for inpatient hospital or nursing home services. Renal dialysis is excluded. For women with maternity admissions, the sum includes the newborn's inpatient expenses for the birth hospitalization. Thus, inpatient expenses of the birth hospitalization for newborns are deleted from the baby's record.

SOURCE

Files	*(Description)*	Variables	*(Description)*
FILE01	Hospital inpatient charges	COVEXP	Covered expenses
FILE03	Hospital inpatient provider services	DEI5584	Place of service
		DEI5557	Category of hospital service
FILE06	Services rendered by doctor		
FILE10	Injections given by doctor		

Definition of construction below: For all line items in files 01 and 03 (hospital expenses), sum all covered expenses for a given person and contract year except those expenses involving renal dialysis (DEI5557 not equal to 13). For all line items in files 06 and 10 (physician services), sum all covered expenses for a given person and contract year that occurred in a hospital or nursing home (DEI5584 = 4 or 5).

CONSTRUCTION

```
For FILE01 and FILE03:
    DO OVER PERSON AND CONTYR;
      IF DEI5557 NE 13 THEN INPDOL = INPDOL + COVEXP;
         END;
For FILE06 and FILE10:
    DO OVER PERSON AND CONTYR;
      IF (DEI5584 = 4 OR DEI5584 = 5)
        THEN INPDOL = INPDOL + COVEXP;
          END;
```

VARIABLE VALUES

```
DEI5584                DEI5557
  4 = hospital           13 = renal dialysis
  5 = nursing home
```

Codebook Example #2:

VARIABLE MENTVIS *(Variable name)* — FFS ANNUAL EXPENDITURES/COUNTS

Psychotherapy visits *(Variable label)*

(Variable explanation:)
MENTVIS indicates the annual number of outpatient visits for psychotherapy. It includes billed visits only. The limit was 52 covered visits per person per year. The count includes an initial visit to a psychiatrist or psychologist.

SOURCE

Files	*(Description)*	Variables	*(Description)*
FILE06	Services rendered by doctor	DEI5502	Provider
FILE10	Injections given by doctor	DEI5555	Date of service
		DEI5584	Place of service
		DEI5606	CRVS code

Definition of construction below: For a given person and contract year, sum the number of outpatient psychotherapy visits. A visit is defined by a provider number (DEI5502) and date of service (DEI5555). A visit is considered to be outpatient if the place of service is neither a hospital or a nursing home (DEI5584 NE 4 OR 5). An outpatient visit is considered psychotherapy if at least one of the procedures rendered (defined by CRVS codes, DEI5606) by the provider is classed as psychotherapy (DEI5606 = 90800-90899) or if the visit was an initial office visit (DEI5606 = code in Table 7) to a psychotherapy provider (DEI5502 = provider code in Table 8).

CONSTRUCTION

```
DO OVER PERSON AND CONTYR;
  DO OVER DEI5502 AND DEI5555;
    IF (DEI5584 < 4 OR DEI5584 > 5) THEN DO;
      IF (90800 <= DEI5606 <= 90899) OR
         ((DEI5606 = CRVS code in Table 7) AND
          (DEI5502 = provider in Table 8))
        THEN MENTAL = 1;
    END;
  END;
  IF (last line item for given DEI5502 and DEI5555) THEN
  MENTVIS = MENTVIS + MENTAL
END;
```

(continued next page)

Codebook Example #2 (cont):

VARIABLE VALUES

DEI5584	DEI5606
4 = hospital	90800-90899 = psychotherapy services
5 = nursing home	

Variable Frequencies and Statistics

At the right of each box in the codebook will be a table of statistics or a table of response frequencies (not shown in the examples). Expenditure variables have a table of statistics that indicates (1) number of observations, (2) number of observations with missing values, (3) the mean, (4) the median, (5) the minimum value, (6) the maximum value, (7) standard deviation, (8) coefficient of variation, (9) skewness, and (10) kurtosis. Visit count variables are accompanied by a table of response frequencies. The first column of such tables shows all response codes appearing for the variable. The second and third columns show, respectively, the absolute and cumulative frequencies for each response code. The fourth and fifth columns show the corresponding absolute and cumulative percentages of the frequencies.

Codes Used

Some data found in the claims files are expressed in codes taken from existing coding systems. In this file, such data include diagnosis codes and physician procedure/service (CRVS) codes and modifiers. HIE researchers also added categories to existing coding systems to describe services not adequately reflected by any existing code (e.g., CRVS codes). Codes and definitions for the codes used in the claims files (both primary and derived) are combined in one reference volume, *HIE Reference Series, Vol. I: Codes Used in HIE Claims--Diagnoses, Symptoms, Procedures, Drugs, and Supplies.*[16] This volume is hereafter referred to as *Codes Used.*

[16]M. Nelsen and C. A. Edwards, The Rand Corporation, N-2349-HHS, May 1986.

III. CODEBOOK FOR FFS ANNUAL EXPENDITURES AND VISIT COUNTS

VARIABLE FILENAME — FFS ANNUAL EXPENDITURES/COUNTS

Name of file

FILENAME is a 6-digit code that uniquely identifies the file. This file name is DEAFAA.

FILENAME

VALUE	FREQ	CUM FREQ	%	CUM %
DEAFAA	25740	25740	100.00	100.00

VARIABLE PERSON — FFS ANNUAL EXPENDITURES/COUNTS

Person identifier

PERSON is an 8-character alphanumeric code that uniquely identifies the participant in the HIE to whom the following data refer. The second character of PERSON designates the site where the participant resided when enrolled. A=Dayton; B=Seattle; E=Fitchburg; F=Franklin County; G=Charleston; H=Georgetown County.

VARIABLE SITE — FFS ANNUAL EXPENDITURES/COUNTS

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 the participant was initially enrolled.

SITE

VALUE	FREQ	CUM FREQ	%	CUM %
1	4615	4615	17.93	17.93
2	8891	13506	34.54	52.47
3	2535	16041	9.85	62.32
4	3191	19232	12.40	74.72
5	2761	21993	10.73	85.44
6	3747	25740	14.56	100.00

VARIABLE INSTAT — FFS ANNUAL EXPENDITURES/COUNTS

Insurance status

CODES

1 - Ever insured (includes HMO experimental group)
2 - Ever assigned to HMO control group
3 - Never insured

INSTAT describes the participant's insurance status in the Health Insurance Experiment. (INSTAT=1 for all records in this file).

INSTAT

VALUE	FREQ	CUM FREQ	%	CUM %
1	25740	25740	100.00	100.00

VARIABLE CONTYR — FFS ANNUAL EXPENDITURES/COUNTS

Contract year

CODES

P1 - First year (3-year South Carolina group only)
P2 - Second year (3-year South Carolina group only)
P3 - Third year (3-year South Carolina group only)
01 - First year
02 - Second year
03 - Third year
04 - Fourth year
05 - Fifth year

CONTYR identifies the contract years of coverage for participants who filed claims under the HIE. In South Carolina, contract years P1-P3 for 3-year enrollees occurred at the same time as contract years 03-05 for 5-year enrollees. In all other sites chronological years and contract years are identical for those in both enrollment terms.

CONTYR

VALUE	FREQ	CUM FREQ	%	CUM %
P1	1397	1397	5.43	5.43
P2	1384	2781	5.38	10.80
P3	1369	4150	5.32	16.12
01	5681	9831	22.07	38.19
02	5626	15457	21.86	60.05
03	5578	21035	21.67	81.72
04	2356	23391	9.15	90.87
05	2349	25740	9.13	100.00

* *

VARIABLE COVEXP

The variable COVEXP (Covered Expenses) is a variable used in the constructions of other variables on this file, but is not in the file itself. It is employed to ensure that only covered expenses are used. COVEXP is created from the following claims line-item variables:

DEI5558 Line-item charge	DEI5562 Other noncovered charges
DEI5559 Noncovered charge	DEI5563 Other reason for noncoverage
DEI5560 Reason for noncoverage	

The code used to create COVEXP is:

```
COVEXP = DEI5558;
IF DEI5560 = (any of the codes in Appendix D)
THEN COVEXP = DEI5558-DEI5559;
IF FILE IS FILE 01 OR FILE 09 OR FILE 18 THEN DO;
IF DEI5563 = (any of the codes in Appendix D)
THEN COVEXP = COVEXP - DEI5562;
END;
```

* *
* *

NOTE: For all the following variables, a value equal to a period (.) indicates that the individual is a GHC participant (experimental group), and thus fee-for-service expenditures or visit counts do not apply. Only dental expenditures and visit counts are recorded for GHC experimentals in the following FFS file.

* *
* *

VARIABLE INPDOL

FFS ANNUAL EXPENDITURES/COUNTS

Inpatient expenses

INPDOL indicates the sum of a participant's annual covered expenses for inpatient hospital or nursing home services. Renal dialysis is excluded. For women with maternity admissions, the sum includes the newborn's inpatient expenses for the birth hospitalization. Thus, inpatient expenses of the birth hospitalization are excluded from a newborn's record.

SOURCE

Files		Variables	
FILE01	Hospital inpatient charges	COVEXP	Covered expenses
FILE03	Hospital inpatient provider services	DE15584	Place of service
FILE06	Services rendered by doctor	DE15557	Category of hospital service
FILE10	Injections given by doctor		

CONSTRUCTION

For FILE01 and FILE03:

```
DO OVER PERSON AND CONTYR;
  IF DE15557 NE 13 THEN INPDOL = INPDOL + COVEXP;
END;
```

For FILE06 and FILE10:

```
DO OVER PERSON AND CONTYR;
  IF (DE15584 = 4 OR DE15584 = 5)
    THEN INPDOL = INPDOL + COVEXP;
END;
```

VARIABLE VALUES

DE15584

4 = hospital
5 = nursing home

DE15557

13 = renal dialysis

INPDOL

NUMBER OF OBSERVATIONS	21099
NUMBER OF NOT APPLICABLE	4641
MEAN	222.98
MEDIAN	0.00
MINIMUM VALUE	0.00
MAXIMUM VALUE	71695.40
STANDARD DEVIATION	1407.50
COEFFICIENT OF VARIATION	631.23
SKEWNESS	18.44
KURTOSIS	557.25

VARIABLE MENTDOL — FFS ANNUAL EXPENDITURES/COUNTS

Psychotherapy expenses

MENTDOL indicates the sum of a participant's annual covered expenses for outpatient psychotherapy services, including injected drugs. The limit was 52 covered visits per person per year.

NOTE: A few cases of more than 52 visits appear on the records. At the beginning of the experiment, family visits for psychotherapy were covered as fractional visits for the individuals involved; however, this practice was discontinued early in the experiment and family visits were counted as one visit for each person. For these files, each participant visit to a psychotherapy provider on a given date is counted as one visit; thus, any previously covered "partial visits" are now counted as single visits, adjusting the covered visits upward.

SOURCE

Files		Variables	
FILE06	Services rendered by doctor	COVEXP	Covered expenses
FILE10	Injections given by doctor	DEI5584	Place of service
		DEI5606	CRVS code

CONSTRUCTION

```
DO OVER PERSON AND CONTYR;

  IF (DEI5584 NE 4 AND DEI5584 NE 5) AND 90800<=DEI5606<=90899
    THEN MENTDOL=MENTDOL + COVEXP;

END;
```

VARIABLE VALUES

DEI5584

- 4 = hospital
- 5 = nursing home

DEI5606

- 90800-90813 = psychotherapy, adult and child
- 90814-90833 = group or family therapy
- 90834-90838 = shock therapy
- 90839-90899 = other therapy or testing

MENTDOL

NUMBER OF OBSERVATIONS	21099
NUMBER OF NOT APPLICABLE	4641
MEAN	14.81
MEDIAN	0.00
MINIMUM VALUE	0.00
MAXIMUM VALUE	2940.00
STANDARD DEVIATION	128.23
COEFFICIENT OF VARIATION	866.01
SKEWNESS	12.43
KURTOSIS	182.03

VARIABLE OUTPDOL — FFS ANNUAL EXPENDITURES/COUNTS

Outpatient expenses

OUTPDOL indicates the sum of a participant's annual covered expenses for outpatient medical services. Excluded are charges for dental care, outpatient drugs and supplies, and outpatient psychotherapy.

SOURCE

Files		Variables	
FILE06	Services rendered by doctor	COVEXP	Covered expenses
FILE10	Injections given by doctor	DE15584	Place of service
FILE11	Outpatient services billed by an institution	DE15606	CRVS code

CONSTRUCTION

For FILE06 and FILE10:

```
DO OVER PERSON AND CONTYR;
  IF (DE15584 NE 4 AND DE15584 NE 5) AND
     (DE15606<90800 OR DE15606>90899)
      THEN OUTPDOL=OUTPDOL + COVEXP;
END;
```

For FILE11:

```
DO OVER PERSON AND CONTYR;
  OUTPDOL=OUTPDOL + COVEXP;
END;
```

VARIABLE VALUES

DE15584

4 = hospital
5 = nursing home

DE15606

90800-90899 = psychotherapy services

OUTPDOL

NUMBER OF OBSERVATIONS	21099
NUMBER OF NOT APPLICABLE	4641
MEAN	111.27
MEDIAN	45.00
MINIMUM VALUE	0.00
MAXIMUM VALUE	6335.96
STANDARD DEVIATION	213.55
COEFFICIENT OF VARIATION	191.92
SKEWNESS	7.14
KURTOSIS	102.05

VARIABLE MEDDOL — FFS ANNUAL EXPENDITURES/COUNTS

Medical expenses

MEDDOL indicates the sum of a participant's annual covered expenses for inpatient and outpatient medical services, including drugs and supplies. Excluded are charges for dental services and outpatient psychotherapy. For women with maternity admissions, the sum includes the newborn's inpatient expenses for the birth hospitalization. Thus, for newborns, the sum excludes inpatient expenses for the birth hospitalization.

SOURCE

Files		Variables	
FILE01	Hospital inpatient charges	COVEXP	Covered expenses
FILE03	Hospital inpatient provider services	DEI5606	CRVS code
FILE06	Services rendered by doctor		
FILE08	Drugs sold by doctor		
FILE09	Supplies sold by doctor		
FILE10	Injections given by doctor		
FILE11	Outpatient services billed by an institution		
FILE15	Drugs purchased		
FILE16	Supplies purchased at pharmacy		
FILE18	Supplies purchased from nonpharmacy providers		

CONSTRUCTION

For FILE01,FILE03,FILE08,FILE09,FILE11,FILE15,FILE16,and FILE18:

```
DO OVER PERSON AND CONTYR;
  MEDDOL = MEDDOL + COVEXP;
END;
```

For FILE06 and FILE10:

```
DO OVER PERSON AND CONTYR;
  IF DEI5606<90800 OR DEI5606>90899
     THEN MEDDOL = MEDDOL + COVEXP;
END;
```

(cont.)

MEDDOL

NUMBER OF OBSERVATIONS	21099
NUMBER OF NOT APPLICABLE	4641
MEAN	377.20
MEDIAN	75.00
MINIMUM VALUE	0.00
MAXIMUM VALUE	72682.64
STANDARD DEVIATION	1507.22
COEFFICIENT OF VARIATION	399.58
SKEWNESS	16.42
KURTOSIS	454.83

VARIABLE MEDDOL (cont.)

VARIABLE VALUES

DE15606

90800-90899 = psychotherapy services

VARIABLE DENTDOL — FFS ANNUAL EXPENDITURES/COUNTS

Dental expenses

DENTDOL indicates the sum of a participant's annual covered expenses for dental services. DENTDOL does not include prescribed drugs or supplies.

SOURCE

Files		Variables	
FILE12	Services provided by dentist	COVEXP	Covered expenses

CONSTRUCTION

```
DO OVER PERSON AND CONTYR;
  DENTDOL = DENTDOL + COVEXP;
END;
```

DENTDOL

NUMBER OF OBSERVATIONS	25740
NUMBER OF NOT APPLICABLE	0
MEAN	141.34
MEDIAN	22.00
MINIMUM VALUE	0.00
MAXIMUM VALUE	10609.00
STANDARD DEVIATION	426.78
COEFFICIENT OF VARIATION	301.96
SKEWNESS	7.40
KURTOSIS	84.54

VARIABLE DRUGDOL — FFS ANNUAL EXPENDITURES/COUNTS

Drug expenses

DRUGDOL indicates the sum of a participant's annual covered expenses for outpatient and dental drugs, including certain nonprescription drugs when purchased for certain diagnosed conditions. A list of these nonprescription drugs and their corresponding conditions can be found in Appendix F.

NOTE: There was a $100 limit for all nonprescription drugs purchased by a participant for each diagnosed condition during an accounting year. Insulin and associated supplies were exempt from the $100 limit.

SOURCE

Files		Variables	
FILE08	Drugs sold by doctor	COVEXP	Covered expenses
FILE15	Drugs purchased		

CONSTRUCTION

```
DO OVER PERSON AND CONTYR;

  DRUGDOL = DRUGDOL + COVEXP;

END;
```

DRUGDOL

NUMBER OF OBSERVATIONS	21099
NUMBER OF NOT APPLICABLE	4641
MEAN	28.44
MEDIAN	3.50
MINIMUM VALUE	0.00
MAXIMUM VALUE	2041.49
STANDARD DEVIATION	76.29
COEFFICIENT OF VARIATION	268.26
SKEWNESS	7.56
KURTOSIS	98.13

VARIABLE SUPPDOL — FFS ANNUAL EXPENDITURES/COUNTS

Supply expenses

SUPPDOL indicates the sum of a participant's annual covered expenses for outpatient supplies.

SUPPDOL

NUMBER OF OBSERVATIONS	21099
NUMBER OF NOT APPLICABLE	4641
MEAN	14.46
MEDIAN	0.00
MINIMUM VALUE	0.00
MAXIMUM VALUE	2132.00
STANDARD DEVIATION	45.81
COEFFICIENT OF VARIATION	316.71
SKEWNESS	12.72
KURTOSIS	340.54

(cont.)

VARIABLE SUPPDOL (cont.)

SOURCE

Files		Variables	
FILE09	Supplies sold by doctor	COVEXP	Covered expenses
FILE16	Supplies purchased at pharmacy		
FILE18	Supplies purchased from nonpharmacy providers		

CONSTRUCTION

```
DO OVER PERSON AND CONTYR;
  SUPPDOL = SUPPDOL + COVEXP;
END;
```

VARIABLE INPMIS — FFS ANNUAL EXPENDITURES/COUNTS

Incomplete hospital records

CODES

0 - Had no missing inpatient bills or had no hospitalizations
1 - Had missing inpatient bills

INPMIS indicates whether the individual's hospitalizations are believed to have missing bills. This category includes women with births but no recorded inpatient maternity expenses near the time of birth. It also includes individuals with missing hospital or physician bills. If the hospitalization was psychiatric or the problem could have been handled by interns or residents (who typically do not submit separate bills), the case is treated as complete.

INPMIS

VALUE	FREQ	CUM FREQ	%	CUM %
.	4641	.	.	.
0	21010	21010	99.58	99.58
1	89	21099	0.42	100.00

VARIABLE POSMED — FFS ANNUAL EXPENDITURES/COUNTS

Positive medical expenditures

CODES

0 - Had no medical expenditures
1 - Had medical expenditures

POSMED indicates whether an individual had any positive medical expenditures (i.e., MEDDOL > 0 or INPMIS > 0) during the contract year or portion thereof.

NOTE: An individual could have MEDDOL=0 but have missing inpatient bills (INPMIS>0). Such an individual is considered to have positive medical expenditures, but those expenditures are not reflected in the data because of missing records.

POSMED

VALUE	FREQ	CUM FREQ	%	CUM %
.	4641	.	.	.
0	4836	4836	22.92	22.92
1	16263	21099	77.08	100.00

VARIABLE POSINP — FFS ANNUAL EXPENDITURES/COUNTS

Positive inpatient expenditures

CODES

0 - Had no inpatient expenditures
1 - Had inpatient expenditures

POSMED indicates whether an individual had any positive inpatient expenditures (i.e., INPDOL > 0 or INPMIS > 0) during the contract year or portion thereof.

NOTE: An individual could have INPDOL=0 but have missing inpatient bills (INPMIS>0). Such an individual is considered to have positive inpatient expenditures, but those expenditures are not reflected in the data because of missing records.

POSINP

VALUE	FREQ	CUM FREQ	%	CUM %
.	4641	.	.	.
0	19200	19200	91.00	91.00
1	1899	21099	9.00	100.00

VARIABLE MENTVIS — FFS ANNUAL EXPENDITURES/COUNTS

Psychotherapy visits

MENTVIS indicates the annual number of outpatient visits for psychotherapy. It includes billed visits only. The limit was 52 covered visits per person per year. The count includes an initial visit to a psychiatrist or psychologist.

NOTE: A few cases of more than 52 visits appear on the records. At the beginning of the experiment, family visits for psychotherapy were covered as fractional visits for the individuals involved; however, this practice was discontinued in the first year of the experiment and family visits were counted as one visit for each person. For these files, each participant visit to a psychotherapy provider on a given date is also counted as one visit, regardless of earlier counts. Thus, any covered "partial visits" are now counted as single visits, adjusting the number of covered visits upward. Users are reminded that psychotherapy visit counts and expenditure totals are not based on equivalent measures.

SOURCE

Files		Variables	
FILE06	Services rendered by doctor	DEI5502	Provider number
FILE10	Injections given by doctor	DEI5555	Date of service
		DEI5584	Place of service
		DEI5606	CRVS code

CONSTRUCTION

```
DO OVER PERSON AND CONTYR;
  DO OVER DEI5502 AND DEI5555;
    IF (DEI5584 < 4 OR DEI5584 > 5) THEN DO;
      IF (90800 <= DEI5606 <= 90899) OR
         ((DEI5606 = CRVS code in Table 7) AND
          (DEI5502 classed as type of provider in Table 8))
        THEN MENTAL = 1;
    END;
```

(cont.)

MENTVIS

VALUE	FREQ	CUM FREQ	%	CUM %
.	4641	.	.	.
0	20390	20390	96.64	96.64
1	117	20507	0.56	97.19
2	61	20568	0.29	97.48
3	55	20623	0.26	97.74
4	49	20672	0.23	97.98
5	42	20714	0.20	98.18
6	31	20745	0.15	98.32
7	36	20781	0.17	98.49
8	19	20800	0.09	98.58
9	24	20824	0.11	98.70
10	18	20842	0.09	98.78
11	15	20857	0.07	98.85
12	14	20871	0.07	98.92
13	9	20880	0.04	98.96
14	15	20895	0.07	99.03
15	10	20905	0.05	99.08
16	12	20917	0.06	99.14
17	4	20921	0.02	99.16
18	9	20930	0.04	99.20
19	5	20935	0.02	99.22
20	8	20943	0.04	99.26
21	8	20951	0.04	99.30
22	7	20958	0.03	99.33
23	9	20967	0.04	99.37
24	5	20972	0.02	99.40
25	6	20978	0.03	99.43
26	4	20982	0.02	99.45
27	5	20987	0.02	99.47
28	4	20991	0.02	99.49
29	5	20996	0.02	99.51
30	5	21001	0.02	99.54
31	8	21009	0.04	99.57
32	4	21013	0.02	99.59
33	4	21017	0.02	99.61
34	5	21022	0.02	99.64
35	4	21026	0.02	99.65
36	4	21030	0.02	99.67
37	7	21037	0.03	99.71
38	2	21039	0.01	99.72
39	7	21046	0.03	99.75
40	5	21051	0.02	99.77
41	5	21056	0.02	99.80
42	3	21059	0.01	99.81
43	2	21061	0.01	99.82

(cont.)

VARIABLE MENTVIS (cont.)

```
    END;

    IF (last line item for given DE15502 and DE15555) THEN
    MENTVIS = MENTVIS + MENTAL

  END;

VARIABLE VALUES

  DE15584                DE15606

    4 = hospital           90800-90813 = psychotherapy, adult and
                                         child
    5 = nursing home       90814-90833 = group or family therapy
                           90834-90838 = shock therapy
                           90839-90899 = other therapy or testing
```

VALUE	FREQ	CUM FREQ	%	CUM %
44	3	21064	0.01	99.83
45	7	21071	0.03	99.87
46	2	21073	0.01	99.88
47	5	21078	0.02	99.90
48	2	21080	0.01	99.91
49	2	21082	0.01	99.92
50	3	21085	0.01	99.93
51	2	21087	0.01	99.94
52	4	21091	0.02	99.96
53	2	21093	0.01	99.97
54	3	21096	0.01	99.99
56	2	21098	0.01	100.00
62	1	21099	0.01	100.00

TABLE 7

CRVS Codes for Initial Visits

90010	limited office visit
90011	unspecified level office visit
90015	intermediate office visit
90020	comprehensive office visit
90026	unusually complex office visit
90510	limited visit: emergency care facility
90511	unspecified level visit: emergency care facility
90515	intermedicate visit: emergency care facility
90600-90645	consultations
99032-99034	counseling

(cont.)

VARIABLE MENTVIS (cont.)

TABLE 8

Mental Health Specialists

psychiatrist (MD)
child psychiatrist (MD)
psychiatrist (DO)
child psychiatrist (DO)
psychiatric medical clinic
child psychiatric medical clinic
mental health clinic
alcoholism and/or drug treatment clinic
psychiatric osteopathic clinic
child psychiatric osteopathic clinic
mental health osteopathic clinic
alcoholism and/or drug treatment osteopathic clinic
psychiatric hospital outpatient clinic
child psychiatric hospital outpatient clinic
mental health hospital outpatient clinic
alcoholism and/or drug treatment hospital outpatient clinic
psychologist
psychiatric nurse, MSW, counselor
alcohol-drug abuse counselor
psychologically oriented providers

VARIABLE DENTVIS — FFS ANNUAL EXPENDITURES/COUNTS

Dental visits

DENTVIS indicates the annual number of participant visits for dental services.

(cont.)

DENTVIS

VALUE	FREQ	CUM FREQ	%	CUM %
0	11336	11336	44.04	44.04
1	3722	15058	14.46	58.50
2	3902	18960	15.16	73.66
3	2577	21537	10.01	83.67
4	1651	23188	6.41	90.09
5	915	24103	3.56	93.64
6	622	24725	2.42	96.06
7	360	25085	1.40	97.46
8	210	25295	0.82	98.27
9	150	25445	0.58	98.85
10	94	25539	0.37	99.22
11	64	25603	0.25	99.47

(cont.)

VARIABLE DENTVIS (cont.)

SOURCE

Files	Variables
FILE12 Services provided by dentist	DEI5502 Provider
	DEI5555 Date of service

CONSTRUCTION

```
DO OVER PERSON AND CONTYR;
  DO OVER DEI5502 AND DEI5555;
    DENTAL = 1;
  END;
  IF (last line item for given DEI5502 and DEI5555) THEN
  DENTVIS = DENTVIS + DENTAL;
END;
```

VALUE	FREQ	CUM FREQ	%	CUM %
12	45	25648	0.18	99.64
13	31	25679	0.12	99.76
14	19	25698	0.07	99.84
15	10	25708	0.04	99.88
16	11	25719	0.04	99.92
17	6	25725	0.02	99.94
18	2	25727	0.01	99.95
19	5	25732	0.02	99.97
21	2	25734	0.01	99.98
22	2	25736	0.01	99.98
23	1	25737	0.00	99.99
25	1	25738	0.00	99.99
30	1	25739	0.00	100.00
33	1	25740	0.00	100.00

VARIABLE MDVIS — FFS ANNUAL EXPENDITURES/COUNTS

Physician face-to-face visits (outpatient)

MDVIS indicates the annual number of outpatient face-to-face visits with physician providers, including doctors of osteopathy. The total excludes dental and outpatient psychiatric providers and visits where only radiology, pathology, or anesthesiology services were provided.

NOTE: If any portion of a visit is a psychotherapy visit (MENTVIS), the visit is excluded from MDVIS. This variable cannot be used to obtain the average expenditure per visit. Visit counts represent face-to-face visits only, whereas expenditure totals include both face-to-face and non-face-to-face visits.

SOURCE

Files	Variables
FILE06 Services rendered by doctor	DEI5502 Provider
FILE10 Injections given by doctor	DEI5555 Date of service
	DEI5584 Place of service
	DEI5606 CRVS code

(cont.)

MDVIS

VALUE	FREQ	CUM FREQ	%	CUM %
.	4641	.	.	.
0	6755	6755	32.02	32.02
1	3915	10670	18.56	50.57
2	2875	13545	13.63	64.20
3	1946	15491	9.22	73.42
4	1395	16886	6.61	80.03
5	1019	17905	4.83	84.86
6	717	18622	3.40	88.26
7	557	19179	2.64	90.90
8	421	19600	2.00	92.90
9	301	19901	1.43	94.32
10	220	20121	1.04	95.37
11	195	20316	0.92	96.29
12	124	20440	0.59	96.88
13	113	20553	0.54	97.41
14	83	20636	0.39	97.81
15	59	20695	0.28	98.09
16	56	20751	0.27	98.35
17	36	20787	0.17	98.52
18	40	20827	0.19	98.71
19	36	20863	0.17	98.88
20	27	20890	0.13	99.01
21	23	20913	0.11	99.12
22	20	20933	0.10	99.21
23	19	20952	0.09	99.30

(cont.)

VARIABLE MDVIS (cont.)

CONSTRUCTION

```
DO OVER PERSON AND CONTYR;
  DO OVER DEI5502 AND DEI5555;
    IF (DEI5584 < 4 OR DEI5584 > 5) AND MENTAL NE 1 THEN DO;
      IF (DEI5606 = any CRVS code in Table 9) THEN DO;
        IF (90100<=DEI5606<=90199 OR 97000<=DEI5606<=97799) AND
           (DEI5502 = a hospital) THEN NOTMD=1;
        IF NOTMD NE 1 AND
           (DEI5502 is classified among those in Table 10)
            THEN MD = 1;
      END;
    END;
  END;
  IF (last line item for given DEI5502 and DEI5555) THEN
  MDVIS = MDVIS + MD;
END;
```

VARIABLE VALUES

```
DEI5584                DEI5606
  4 = hospital           90100-90199 = home visits
  5 = nursing home       97000-97799 = physical therapy
```

(cont.)

VALUE	FREQ	CUM FREQ	%	CUM %
24	14	20966	0.07	99.37
25	8	20974	0.04	99.41
26	10	20984	0.05	99.46
27	6	20990	0.03	99.48
28	12	21002	0.06	99.54
29	6	21008	0.03	99.57
30	8	21016	0.04	99.61
31	8	21024	0.04	99.65
32	4	21028	0.02	99.66
33	5	21033	0.02	99.69
34	9	21042	0.04	99.73
35	5	21047	0.02	99.75
37	6	21053	0.03	99.78
38	9	21062	0.04	99.83
39	1	21063	0.01	99.83
40	3	21066	0.01	99.84
41	5	21071	0.02	99.87
44	6	21077	0.03	99.90
45	2	21079	0.01	99.91
46	2	21081	0.01	99.92
48	2	21083	0.01	99.92
51	1	21084	0.01	99.93
52	3	21087	0.01	99.94
55	1	21088	0.01	99.95
56	1	21089	0.01	99.95
57	1	21090	0.01	99.96
58	1	21091	0.01	99.96
62	1	21092	0.01	99.97
63	1	21093	0.01	99.97
65	1	21094	0.01	99.98
69	1	21095	0.01	99.98
72	1	21096	0.01	99.99
74	1	21097	0.01	99.99
76	1	21098	0.01	100.00
77	1	21099	0.01	100.00

TABLE 9

CRVS Codes for Face-to-Face Visits

CRVS Codes	Services
10000-62273	surgery
62280-64099	surgery
64531-69999	surgery
79000-79499	therapeutic radiation
90000-90099	office visit
*90100-90199	home visits
90200-90499	hospital and nursing home visits
90500-90599	emergency care services
90600-90645	consultations
90700-90749	immunizations, therapeutic injections
90750-90799	pediatric office visits
90962-90999	dialysis services
91000-91299	GI diagnostic services
92000-92499	eye services
92504-92549	selected ENT services
93015-93017	selected cardiovascular services
93019-93022	selected cardiovascular services
93046	selected cardiovascular services
93500-93599	cardiac catheterizations
95000-95199	allergy testing
96000-96300	specific therapeutic procedures
96450-96499	specific therapeutic procedures
96900-96920	specific therapeutic procedures
*97000-97261	physical medicine visits
*97500-97799	miscellaneous physical medicine
99032-99034	counseling, conference

*These CRVS codes are excluded from MDVIS for face-to-face outpatient visits at a hospital.

(cont.)

TABLE 10

Physician Providers for Face-to-Face Visits

Physicians (M.D.)
Physicians (D.O.)
Medical (Health Care) clinics and group practices
Osteopathic clinics and group practices
Hospital medical outpatient clinics
Hospital emergency rooms/departments

VARIABLE NONMDVIS — FFS ANNUAL EXPENDITURES/COUNTS

Nonphysician face-to-face visits (outpatient)

NONMDVIS indicates the number of participant outpatient face-to-face contacts with nonphysician medical providers such as speech and physical therapists, chiropractors, podiatrists, acupuncturists, Christian Science healers, etc., during a contract year or applicable portion thereof. The total excludes dental or mental health visits and visits where only radiology, anesthesiology, or pathology services were provided.

NOTE: If any portion of a visit is a psychotherapy visit (MENTVIS), the visit is excluded from NONMDVIS. Thus, if a given visit meets the definition for both NONMDVIS and MENTVIS, the visit is considered psychotherapy and is not counted.

SOURCE

Files		Variables	
FILE06	Services rendered by doctor	DEI5502	Provider
FILE10	Injections given by doctor	DEI5555	Date of service
		DEI5584	Place of service
		DEI5606	CRVS code

(cont.)

NONMDVIS

VALUE	FREQ	CUM FREQ	%	CUM %
.	4641	.	.	.
0	17590	17590	83.37	83.37
1	2398	19988	11.37	94.73
2	258	20246	1.22	95.96
3	124	20370	0.59	96.55
4	83	20453	0.39	96.94
5	79	20532	0.37	97.31
6	63	20595	0.30	97.61
7	50	20645	0.24	97.85
8	40	20685	0.19	98.04
9	32	20717	0.15	98.19
10	38	20755	0.18	98.37
11	22	20777	0.10	98.47
12	18	20795	0.09	98.56
13	26	20821	0.12	98.68
14	24	20845	0.11	98.80
15	25	20870	0.12	98.92
16	16	20886	0.08	98.99
17	20	20906	0.10	99.09
18	16	20922	0.08	99.16
19	10	20932	0.05	99.21
20	11	20943	0.05	99.26
21	11	20954	0.05	99.31
22	13	20967	0.06	99.37
23	6	20973	0.03	99.40
24	7	20980	0.03	99.44
25	14	20994	0.07	99.50

(cont.)

VARIABLE NONMDVIS (cont.)

CONSTRUCTION

```
DO OVER PERSON AND CONTYR;
  DO OVER DE15502 AND DE15555;
    IF (DE15584 < 4 OR DE15584 > 5) AND MENTAL NE 1 THEN DO;
      IF (DE15606 = any CRVS code in Table 9 THEN DO;
        IF (90100<=DE15606<=90199 OR 97000<=DE15606<=97799) AND
           (DE15502 = a hospital) THEN NOTMD=1;
        IF NOTMD = 1 OR
           (DE15502 is classified among those in Table 11)
            THEN NONMD = 1;
      END;
    END;
  END;
  IF (last line item for given DE15502 and DE15555) THEN
  NONMDVIS = NONMDVIS + NONMD;
END;
```

VARIABLE VALUES

DE15584	DE15606
4 = hospital	90100-90199 = home visits
5 = nursing home	97000-97799 = physical therapy

TABLE 11

Nonphysician Providers for Face-to-Face Visits

Audiologists	Podiatrists
Chiropractors	Christian Science Practitioner
Optometrists	Physician's Assistant
Opticians	Midwife
Paramedics	Therapists
Private Duty Nurse	Nurse Practitioner
Ambulance	Screening/Health Association

VALUE	FREQ	CUM FREQ	%	CUM %
26	6	21000	0.03	99.53
27	5	21005	0.02	99.55
28	13	21018	0.06	99.62
29	6	21024	0.03	99.65
30	7	21031	0.03	99.68
31	4	21035	0.02	99.70
32	11	21046	0.05	99.75
33	2	21048	0.01	99.76
34	2	21050	0.01	99.77
35	1	21051	0.01	99.77
36	4	21055	0.02	99.79
37	1	21056	0.01	99.80
38	3	21059	0.01	99.81
40	2	21061	0.01	99.82
41	3	21064	0.01	99.83
42	3	21067	0.01	99.85
43	1	21068	0.01	99.85
44	1	21069	0.01	99.86
45	3	21072	0.01	99.87
46	2	21074	0.01	99.88
47	1	21075	0.01	99.89
48	1	21076	0.01	99.89
49	1	21077	0.01	99.90
50	2	21079	0.01	99.91
51	1	21080	0.01	99.91
52	1	21081	0.01	99.92
55	2	21083	0.01	99.92
56	1	21084	0.01	99.93
59	1	21085	0.01	99.93
60	2	21087	0.01	99.94
62	2	21089	0.01	99.95
63	1	21090	0.01	99.96
68	1	21091	0.01	99.96
70	1	21092	0.01	99.97
75	1	21093	0.01	99.97
78	1	21094	0.01	99.98
81	1	21095	0.01	99.98
84	1	21096	0.01	99.99
99	1	21097	0.01	99.99
106	1	21098	0.01	100.00
109	1	21099	0.01	100.00

VARIABLE TOTADM — FFS ANNUAL EXPENDITURES/COUNTS

Hospital admissions

TOTADM indicates the annual number of covered participant hospitalizations, including admissions for reasons of mental health.

NOTE: Hospital admissions were assigned to (1) women with births but no hospital and/or inpatient provider claims and (2) cases with an inpatient provider claim but no hospital bill. The number of such cases for the individual can be found in the variable INPMIS.

SOURCE

Files		Variables	
FILE01	Hospital inpatient charges	DEI5502	Provider number
FILE03	Hospital inpatient provider services	DEI5513	Admission date
FILE06	Services rendered by doctor (inpatient)*		
FILE10	Injections given by doctor (inpatient)*		

CONSTRUCTION

```
DO OVER PERSON AND CONTYR;
  DO OVER DEI5502 AND DEI5513;
     HOSPADM = 1;
  END;
  IF (last line item for given DEI5502 and DEI5513) THEN
  TOTADM = TOTADM + HOSPADM;
END;
```

(cont.)

TOTADM

VALUE	FREQ	CUM FREQ	%	CUM %
.	4641	.	.	.
0	19219	19219	91.09	91.09
1	1544	20763	7.32	98.41
2	252	21015	1.19	99.60
3	52	21067	0.25	99.85
4	19	21086	0.09	99.94
5	5	21091	0.02	99.96
6	5	21096	0.02	99.99
7	1	21097	0.01	99.99
8	2	21099	0.01	100.00

VARIABLE TOTADM (cont.)

*NOTE ON LINKING FILES: For TOTADM and the hospital visit count variables MATADM and PREGADM, inpatient physician records from files 06 and 10 were linked to hospital service records in file file 01 by comparing dates of service in files 06 and 10 to the admission and discharge dates on file 01. A file 06 or 10 record was linked with a file 01 record if (a) the date of service fell within the admission and discharge dates or (b) the date of service was within 7 days of admission or 7 days after discharge. The latter matches were checked by hand to verify that a correct link had been made. If a file 06 or 10 record could not be linked to a file 01 record, the linking process was repeated to see if the date of service in files 06 or 10 could be matched to a file 03 record. If a match was not found, the file 06 or 10 record was treated as part of a unique hospitalization with a missing hospital bill. Unmatched file 06 and 10 records were grouped together into unique hospitalizations by examining providers and dates of service. An admission date (DEI5513) and discharge date (DEI5514) were assigned to the file 06 and 10 records using the earliest date of service in the group for the admission date, and the latest date of service for the date of discharge.

VARIABLE MATADM — FFS ANNUAL EXPENDITURES/COUNTS

Maternity hospital admissions

MATADM indicates the annual number of covered hospital admissions for delivery-related maternity care. It includes cases where births were reported from other HIE records, but hospital and/or inpatient provider claims were missing. Only mothers will have MATADM>0.

NOTE: Maternity hospital admissions were assigned to (1) women with births but no hospital claims and/or inpatient physician (or midwife) claims and (2) cases with an inpatient physician (or midwife) claim for maternity services but no hospital bill.

SOURCE

Files		Variables	
FILE01	Hospital inpatient charges	DEI5502	Provider number
FILE03	Hospital inpatient provider services	DEI5513	Admission date
		DEI5522	1st diagnosis code
FILE06	Services rendered by doctor (inpatient only)*	DEI5524	1st associated diagnosis code
FILE10	Injections given by doctor (inpatient only)*	DEI5525	2nd diagnosis code
		DEI5527	2nd associated diagnosis code
		DEI5528	3rd diagnosis code
		DEI5530	3rd associated diagnosis code
		DEI5531	4th diagnosis code
		DEI5533	4th associated diagnosis code
		DEI5606	CRVS code

*NOTE: See note concerning file linkage under TOTADM.

(cont.)

MATADM

VALUE	FREQ	CUM FREQ	%	CUM %
.	4641	.	.	.
0	20746	20746	98.33	98.33
1	353	21099	1.67	100.00

VARIABLE MATADM (cont.)

CONSTRUCTION

```
DO OVER PERSON AND CONTYR;
  DO OVER DEI5502 AND DEI5513;
     IF (any diagnosis code = code in Table 12) OR
        (DEI5606 = code in Table 13) THEN MAT = 1;
  END;
  IF (last line item for given DEI5502 and DEI5513) THEN
  MATADM = MATADM + MAT;
END;
```

(NOTE: The associated diagnosis was not used in the construction if the diagnosis qualifier indicated that the condition was definitely ruled out by the physician).

TABLE 12

Diagnosis Codes Defining Maternity-Related Hospitalizations

72.0-74.9	obstetrical procedures
650.0-664.9	delivery
Y06.0-Y06.1	prenatal care
Y06.3	failed induction of labor
Y06.4	failed trial of labor for vaginal delivery
Y06.9	pregnancy associated with nonobstetric condition
Y07.0-Y07.1	postpartum observation
Y20.0-Y29.9	liveborn infant births
Y30.0-Y32.9	fetal death

TABLE 13

CRVS Codes Defining Maternity-Related Hospitalizations

59400-59446	delivery care
59481	observation of labor without delivery
59500-59561	caesarean section
59889	unlisted maternity care and delivery procedure

VARIABLE PREGADM — FFS ANNUAL EXPENDITURES/COUNTS

Pregnancy-related hospital admissions

PREGADM indicates the annual number of covered hospital admissions in which pregnancy was a factor. It includes cases where births were reported from other HIE records, but hospital and/or inpatient provider claims were missing. Maternity hospital admissions are included, thus PREGADM>= MATADM.

NOTE: Pregnancy-related hospitalizations were created for 1) women with births but no hospital and/or inpatient provider claims and 2) cases with an inpatient provider claim for pregnancy services but no hospital bill.

SOURCE

Files		Variables	
FILE01	Hospital inpatient charges	DE15502	Provider number
FILE03	Hospital inpatient provider services	DE15513	Admission date
		DE15522	1st diagnosis code
FILE06	Services rendered by doctor (inpatient only)*	DE15524	1st associated diagnosis code
FILE10	Injections given by doctor (inpatient only)*	DE15525	2nd diagnosis code
		DE15527	2nd associated diagnosis code
		DE15528	3rd diagnosis code
		DE15530	3rd associated diagnosis code
		DE15531	4th diagnosis code
		DE15533	4th associated diagnosis code
		DE15606	CRVS code

*NOTE: See note concerning file linkage under TOTADM.

(cont.)

PREGADM

VALUE	FREQ	CUM FREQ	%	CUM %
.	4641	.	.	.
0	20702	20702	98.12	98.12
1	368	21070	1.74	99.86
2	25	21095	0.12	99.98
3	4	21099	0.02	100.00

VARIABLE PREGADM (cont.)

CONSTRUCTION

```
DO OVER PERSON AND CONTYR;
  DO OVER DE15502 AND DE15513;
     IF (any diagnosis code = code in Table 15) OR
       (59000<=DE15606<=59889) THEN PREG = 1;
  END;
  IF (last line item for given DE15502 and DE15513) THEN
  PREGADM = PREGADM + PREG;
END;
```

(NOTE: The associated diagnosis was not used in the construction if the diagnosis qualifier indicated that the condition was definitely ruled out by the physician).

VARIABLE VALUES

DE15606

59000-59889 = maternity care and delivery

TABLE 14

Diagnosis Codes Defining Pregnancy-Related Hospitalizations

72.0-75.9	obstetrical procedures
631.0-678.9	delivery and complications of pregnancy, childbirth, and the puerperium
Y06.0-Y07.1	maternal care
Y20.0-Y29.9	liveborn infant births
Y30.0-Y32.9	fetal death
Y40.0-Y48.9	causes of perinatal morbidity and mortality

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

---

[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 before the experiment, 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.

total PI entitlement was $450, not $598.94 (300 + 298.94). If the family paid a premium of $600, its PI was $600 because the premium exceeded the MDE of $450. 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 quesionnaire 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. 3). Super PI

---

[3]Calculation of PI is further described in Clasquin and Brown, op. cit. 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 was not 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.

recipients represented all sites and both terms of enrollment except Dayton enrollees assigned to three year terms, who had already begun 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]

---

[6]The finite selection model is described in Morris, op. cit.

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

ISSUED TO DATE (cont.)

HIE Reference Series

RF1. *Codes Used in HIE Claims--Diagnoses, Symptoms, Procedures, Drugs, and Supplies*, by M. Nelsen and C. A. Edwards, The Rand Corporation, N-2349/1-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

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

TO BE ISSUED (cont.)

Claims Line-Items Series (cont.)

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

RF2. Providers cited in HIE data

TO BE ISSUED (cont.)

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 FFS Annual Expenditures and Visit Counts 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	DEAFAA01.PUF.DATA
Creation date	December 18, 1985
Variable format	Character
Total number of data elements	23
Header length (bytes)	20
Derived data length (bytes)	136
Record length (bytes)	156

Table C.2

LISTING BY ALPHABETIC ORDER

Name	Location	Length	Type
CONTYR	17	2	A
DENTDOL	53	8	F
DENTVIS	109	8	I
DRUGDOL	61	8	F
FILENAME	1	6	A
FILLER	19	2	A
INPDOL	21	8	F
INPMIS	77	8	I
INSTAT	16	1	A
MATADM	141	8	I
MDVIS	117	8	I
MEDDOL	45	8	F
MENTDOL	29	8	F
MENTVIS	101	8	I
NONMDVIS	125	8	I
OUTPDOL	37	8	F
PERSON	7	8	A
POSINP	93	8	I
POSMED	85	8	I
PREGADM	149	8	I
SITE	15	1	A
SUPPDOL	69	8	F
TOTADM	133	8	I

Table C.3

LISTING BY LOCATION

Name	Location	Length	Type
FILENAME	1	6	A
PERSON	7	8	A
SITE	15	1	A
INSTAT	16	1	A
CONTYR	17	2	A
FILLER	19	2	A
INPDOL	21	8	F
MENTDOL	29	8	F
OUTPDOL	37	8	F
MEDDOL	45	8	F
DENTDOL	53	8	F
DRUGDOL	61	8	F
SUPPDOL	69	8	F
INPMIS	77	8	I
POSMED	85	8	I
POSINP	93	8	I
MENTVIS	101	8	I
DENTVIS	109	8	I
MDVIS	117	8	I
NONMDVIS	125	8	I
TOTADM	133	8	I
MATADM	141	8	I
PREGADM	149	8	I

NOTE: "Type" refers to whether the variable values are alphanumeric (A), integer (I), or fixed-decimal in 8.2 format (F). Missing values are represented differently for each type: A = bbbbbbbb, I = bbbbbbb., and F = bbbbb.bb ("b" meaning blank). To obtain the appropriate positive and missing values, read all values as alphanumeric, then convert "I" data to integers and "F" data to 8.2 format.

Appendix D

CODES AND EXPLANATIONS FOR MEDICAL EXPENSES NOT COVERED BY THE HIE

1 - Inpatient hospital accommodations in a private room
2 - Inpatient hospital comfort items
3 - Inpatient hospital custodial care
4 - Cosmetic surgery not resulting from an accidental injury
5 - Psychiatric outpatient services in excess of 52 consultations per year
6 - Outpatient psychiatric services
7 - Outpatient personal care services
8 - Orthodontia not resulting from accidental injury
9 - Christian Science practitioner or sanitorium not listed in the *Christian Science Journal*
10 - Nonemergency transportation
11 - More than one eye or hearing examination during the accounting year
12 - More than one pair of eyeglass frames every two accounting years
13 - More than one set of eyeglass lenses during the accounting year
14 - More than one hearing aid during accounting year
15 - Exceeds limit on eyeglass frames or hearing aids
16 - Repairs to eyeglass frames and hearing aids
17 - Diagnostic, screening, preventive, or rehabilitation services not otherwise specified in the scope of coverage
18 - More than one piece of medical equipment, appliance, or supply
19 - Equipment, appliances, or supplies costing more than $25
20 - Not medically necessary
21 - Duplicate line item
22 - Amount paid on another Explanation of Benefits
23 - Service before enrollment (SAME AS 64)
24 - Procedure done twice
25 - Certificate of benefits stipulations on service not met
26 - Prior authorization not approved
27 - Participant not eligible for dental care
28 - Blood credit
29 - Over-the-counter drugs
32 - Services covered by workers' compensation or employer's liability laws
33 - Pass through (covered by other insurance; payment from other company was "passed through")
35 - Services covered by accident insurance policies

Appendix D (Continued)

36 - Medicare paid
42 - Paid by other insurance carrier
43 - Paid by agency other than insurance company
46 - Services obtained at Group Health Cooperative
47 - Allowance on over-the-counter drugs per illness per accounting year has been met
48 - Services paid for by Group Health Cooperative
53 - Part paid by Group Health Cooperative; plan benefit = 5% of balance
54 - Charge information unavailable--charge coded as one cent
55 - Discount plus plan benefit is 5%
56 - Medicaid paid
57 - Company physical provided as fringe benefit--charge coded as one cent, but true charge unknown
58 Workers' compensation - charge coded as one cent, but true charge unknown
59 - Services rendered after termination date
60 - Claim is duplicate
61 - Participant not eligible
62 - Suspended
63 - No service
64 - Before enrollment date (SAME AS 23)
65 - Claim filed after time limit
67 - Underpayment
68 - Overpayment, deducted on another claim
69 - Overpayment, returned
70 - Overpayment, deducted on this claim, overpaid on another claim
71 - Billed in error--patient not seen
73 - Duplicate payment recovered
74 - Duplicate payment not recovered
80 - Prepayment for future services--no Maximum Dollar Expenditure involved
81 - Prepayment--part applied to the Maximum Dollar Expenditure

APPENDIX E

FEE-FOR-SERVICE CLAIMS LINE-ITEM FILES

	File	Sample	Variables
(01)	Inpatient Services Billed by Institutions	Hospital claims related to an inpatient stay in a hospital or nursing facility	Diagnoses, categories of hospital service, charges, noncovered charges
(03)	Inpatient Physician Procedures Billed by Institutions	Hospital claims for hospital-employed physician procedures and services	CRVS procedures, charges, noncovered charges, diagnoses, referral physicians
(04)	Drugs Prescribed by Physicians	Drug prescriptions or suggestions written by a physician or independent health specialist	Prescribed drugs, generic codes, symptoms, diagnoses, treatment history/status (no charges)
(05)	Supplies Prescribed by Physicians	Supply prescriptions or suggestions written by a physician or health specialist	Supplies, symptoms, diagnoses, treatment history/status (no charges)
(06)	Services Rendered by Physicians	Claims by independent physicians and nonphysician health specialists for inpatient and outpatient services	Physician services and diagnoses, symptoms, referral physicians, treatment history/status, charges, noncovered charges
(08)	Drugs Sold by Physicians	Physician or health specialist claims for drugs sold to the patient by physician or specialist	Drugs, generic codes, symptoms, diagnoses, dosages, drug regimen, treatment history/status, charges, noncovered charges
(09)	Supplies Sold by Physicians	Physician or health specialist claims for supplies sold to the patient by physician or specialist	Supplies, symptoms, diagnoses, treatment history/status, charges, noncovered charges

APPENDIX E (cont.)

	File	Sample	Variables
(10)	Injections Administered by Physicians	Physician or health specialist claims for injections administered	Injected drugs, generic codes, symptoms, diagnoses, treatment history/status, charges, noncovered charges
(11)	Outpatient Services Billed by Institutions	Hospital claims for outpatient services	Diagnoses, services, symptoms, treatment history/status, charges, noncovered charges
(15)	Drugs Purchased	Claims for drugs purchased other than from a physician or specialist (e.g., at pharmacy)	Drugs purchased, dosages, drug regimen, generic codes, charges, noncovered charges
(16)	Supplies Purchased from Pharmacies	Claims for supplies purchased primarily at pharmacies (eyeglasses and hearing aids not included)	Supplies purchased, diagnosis, charges, noncovered charges
(18)	Supplies Purchased from Nonpharmacy Suppliers	Claims for supplies purchased primarily from opticians and nonpharmacy suppliers (includes eyeglasses and hearing aids)	Supplies purchased, diagnosis, charges, noncovered charges
(12)	Services Rendered by Dentists	Claims for dental services rendered	Symptoms, treatment plan, dental services, charges, noncovered charges
(13)	Drugs Prescribed by Dentists	Drug prescriptions or suggestions written by a dental provider	Drugs, generic codes, treatment plan, symptoms, (no charges)

Appendix F

NONPRESCRIPTION DRUGS COVERED BY THE HIE FOR CERTAIN CONDITIONS

Condition	Nonprescription Drugs Covered
Chronic Allergic (Respiratory) Conditions	Decongestants Antihistamines
Arthritis/Rheumatism (spondylolithesis)	Aspirin and similar aspirin-containing preparations
Diabetes	Insulin and associated supplies
Family Planning	Contraceptive substances
Chronic Lower Gastrointestinal Disease (enteritis, colitis, diverticulitis, hemorrhoidal disease, chronic constipation)	Stool softeners Bulk formers Laxatives Suppositories Hemorrhoidal preparations
Chronic Upper Gastrointestinal Disease (peptic ulcer, duodenal ulcer, gastric or stomach ulcer, esophagitis, gastrectomy, etc.)	Antacids Digestive enzymes
Pregnancy	Iron preparations Prenatal vitamins Stool softeners Bulk formers Laxatives
Nursing Mother	Vitamins
Chronic Respiratory Disease	Bronchial dilators Expectorants Cough suppressants
Chronic Skin Conditions:	
Acne	Anti-acne agents
Psoriasis, atopic dermatitis	Anti-psoriatic agents
Eczema, xerosis	Anti-eczema agents
Chronic thrombophlebitis, cardiac valvular disease, thrombosis	Aspirin

GLOSSARY

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.
"Codes Used"	Shorthand term for the reference volume containing the codes and code definitions used in the claims files. See the explanation in Sec. II.
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.
Covered expenditure	Expenditure of an HIE participant that was paid for by HIE insurance.
Covered service	A service in which any part of the participant's expenditure for the service was covered by the HIE.
Covered visit	A visit in which any part of the participant's expenditure for the visit was covered by the HIE.
CRVS codes	Codes created by the California Relative Value Studies (CRVS) of the California Medical Association to define the procedures and services of physicians and health professionals.
DEI	A variable prefix for primary variables that stands for "data element indicator."
Exit	Departure from the experiment after completion of assigned enrollment term, three or five years.
Face-to-face visit	A visit that involved an element of direct evaluation or treatment by a physician or independent health professional
FFS	Fee-for-service, the private economic sector in which fees are charged.

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 p. 3). 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.
Line item	An itemized claim for service, i.e., an item on a MER recording one instance of a provided service, drug, or supply.
MDE	Maximum dollar expenditure. The 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 and family income.
MER	Medical Expense Report, the insurance claim forms used by the HIE. Different types of MERS were used for different types of providers.
Noncovered visit	A visit in which no portion of the participant's expenditures for services was covered by the HIE. Noncovered visits include those that were completely paid for by other insurance.
Participant	Anyone with a record in the HIE database; includes baseline-only participants and enrollees.
PEG	South Carolina preenrollment group.
Provider	Any person, institution, or organization who provided health services, drugs, or supplies to an HIE participant.
SAS	Statistical Analysis System. HIE files contain data in both SAS and character formats.