N-2347/3-HHS

CLAIMS LINE-ITEM SERIES

Volume 3: CODEBOOKS FOR SEATTLE FEE-FOR-SERVICE CLAIMS FOR COMPARISON WITH HEALTH MAINTENANCE ORGANIZATION CLAIMS

C. E. Peterson, M. Nelsen, D. L. Wesley

October 1986

HEALTH INSURANCE EXPERIMENT

THE RAND CORPORATION

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
1700 Main Street, P.O. Box 2138, Santa Monica, CA 90406-2138

N-2347/3-HHS

CLAIMS LINE-ITEM SERIES

Volume 3: CODEBOOKS FOR SEATTLE FEE-FOR-SERVICE CLAIMS FOR COMPARISON WITH HEALTH MAINTENANCE ORGANIZATION CLAIMS

C. E. Peterson, M. Nelsen, D. L. Wesley

October 1986

HEALTH INSURANCE EXPERIMENT

THE RAND CORPORATION

PREFACE

The codebooks presented in this Note describe the contents of data files 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, Washington, D.C. RAND is issuing a number of tape data files containing data collected from the experiment, grouped in series, with associated documentation.

The Seattle fee-for-service (FFS) files for comparison with health maintenance organization (HMO) files contain data concerning the use of FFS health services by Seattle FFS participants and by participants enrolled in Group Health Cooperative (GHC) of Puget Sound, a large prepaid group practice in Seattle. In the latter group, the data primarily represent GHC participants' uses of FFS health services that were not covered by GHC. These files were created specifically to enable comparisons between the use of health services in an FFS setting and that in an HMO setting.

This is the third of three volumes in the claims line-item series. Primary data concerning the use of FFS health services by FFS participants in the six sites of the HIE are found in Vol. 1 of the series. Volume 2 contains primary data pertaining to the use of GHC-covered health services by GHC participants, including instances of covered FFS services.

The codes used in the present volume (and in all claims files) are listed and defined in *HIE References, Vol. 1: Codes Used in HIE Claims--Diagnoses, Symptoms, Procedures, Drugs, and Supplies*, The RAND Corporation, N-2349/1-HHS, May 1986.

ACKNOWLEDGMENTS

The authors would like to thank George Goldberg, M.D., for his expert and invaluable assistance in preparing this documentation. We also thank Willard Manning and Bernadette Benjamin, who guided us through the intricacies of the data. Grateful acknowledgment is given to Joan Keesey for designing the data processing system and directing the programming, and to Betty Amo and Joice Polin for their indispensable help in preparing the documents for publication. Christina Witsberger and Suzanne Polich gave us helpful comments during the early stages of the document's development. Joyce Mann provided a thoughtful and incisive review. Thanks are also extended to Christine d'Arc Taylor for writing the introduction to the Health Insurance Experiment that appears as the first section of this volume. Final production of the Note was supervised by Patricia Bedrosian. Finally, we want to thank Joseph Newhouse for his guidance and support.

CONTENTS

FIGURE

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 the codebooks contained herein. Section II describes the distinctive features of the Seattle fee-for-service (FFS) claims comparison files, a group of files created to enable the comparison of the use of FFS and HMO health services. Sections III-VI present the file codebooks.

EXPERIMENTAL DESIGN

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

Over the course of the experiment, information of some kind was obtained for 26,148 persons. A total of 24,340 persons were administered a baseline interview (*baseline participants*[3]), of which

---

[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.

7,700 were ultimately enrolled.[4] An additional 554 persons were enrolled later, all but a few of them newborns or adopted children under one year of age. Those 8,254 *insured enrollees* were assigned to an *experimental 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 (baseline interview).

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).

---

[4]Of the remaining 16,640 persons, the 15,411 who did not enroll are called *baseline-only participants*; the other 1,229 are part of the adjunct enrollee group defined below.

[5]Note that "insured" in HIE terminology only means "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.

- Those institutionalized (jail, long-term hospital).
- Veterans with service-connected disabilities.
- Those in the military and their dependents.[7]

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

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

A. Free care (0% coinsurance) (one plan).
B-D. Family pays 25% of its medical bills (25% coinsurance) (three plans).

---

[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.

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

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).

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% if care was received outside the HMO (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 plan (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

[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.

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

Services Provided

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

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

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

Terms of Enrollment

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

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

---

[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, 2 parts	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 (South 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.

Thereafter, National Opinion Research Center managed data collection and Glen Slaughter and Associates handled insurance administration and claim processing. American Health Profiles, Inc., conducted the medical screening examinations at enrollment (October 1974 through January 1977); CompuHealth administered those examinations at exit (October 1977 through December 1981).

FILE DEVELOPMENT

Subcontractors sent the collected data to RAND, either in hardcopy form or as cleaned data tapes. At RAND the hardcopy data were encoded for machine readability and subjected to computerized checks for 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.

[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.

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]

A codebook is also provided for each file. This volume contains the codebooks for the Seattle FFS comparison files, a set of files in the claims line-item series. Section II describes the scope and use of the data found in the Seattle FFS comparison files; Secs. III-VI present the file codebooks.

---

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

[15]These are the components of all files issued by RAND. Other institutions (e.g., National Archives) will distribute these files and may alter their contents.

II. SEATTLE FEE-FOR-SERVICE CLAIMS FOR HMO COMPARISON

The files documented herein contain data concerning fee-for-service (FFS) hospital and physician services used by HIE Seattle participants. These data were specially processed for comparison with data concerning health care obtained by HIE participants enrolled in Group Health Cooperative (GHC) of Puget Sound, a large prepaid group practice in the Seattle area. The bulk of records found in these files are those of FFS enrollees; however, some GHC participants used FFS services by choice, in emergencies, or by referral. Thus, GHC participant visits to FFS providers[1] are also found on these files. The majority of these FFS services to GHC participants are services that were *not* covered by GHC. For brevity, we refer to the Seattle FFS comparison files as the FFSCOMP files throughout the following discussion.

The units of observation in the FFSCOMP files are services rendered by FFS physicians, hospitals, and other professional health care providers; i.e., there is one record for each service listed in these files. Each instance of a claimed service to an HIE participant is called a "line item." Drugs and supplies are also considered line items; however, only physician and hospital services are presented for comparison in these files. The data in these files are a subsample of line-item data found in the FFS claims line-item files.[2] The FFS claims line-item files contain FFS claims data for participants in all six sites of the HIE; the FFSCOMP files contain FFS data taken only from Seattle. A list of the FFS claims line-item files, including a sample of variables found in each file, appears in Appendix D. Records of GHC-provided or GHC-covered FFS health services used by GHC participants

[1]"Providers" include hospitals, clinics, physicians, laboratories, and pharmacies--in short, any person, institution, or organization who provided medical or dental services, drugs, or supplies to an HIE participant.

[2]C. E. Peterson et al., *Claims Line-Item Series, Vol. 1: Codebooks for Fee-for-Service Claims*, The RAND Corporation, N-2347/1-HHS, June 1986.

are found in the HMO claims line-item files.[3] A list of these files are shown in Appendix E.

The scope and methods of data collection for the FFS and HMO systems are explained in detail in their respective volumes. Reference to both volumes is *necessary* to understand the data upon which the FFSCOMP files are based, and *some familiarity with that documentation is assumed* in the following discussion of the FFSCOMP files.

Codes derived from several existing coding systems were used in the FFS and HMO claims line-item files to designate diagnoses, symptoms, health procedures, drugs, and supplies. Some of these codes also appear in files derived from the claims line-item files, such as this one. For ease of reference, all codes used in the FFS and HMO claims line-item files (and their derived files) are listed and defined in one reference volume.[4]

The primary adjustment made to FFS data in creating the FFSCOMP data was the creation of *imputed* charges for physician services to replace the original FFS physician charges. This imputation process is the same as that used to impute physician/health professional charges in the HMO claims line-item files and was done so that services in the two systems would be comparably valued. Using the FFS imputed charges derived from this process, RAND HIE analysts published their own comparison of utilization rates of the FFS and HMO health care systems.[5] Their discussion of methods is highly recommended as a supplement in using these data.

---

[3]C. E. Peterson et al., *Claims Line-Item Series, Vol. 2: Codebooks for Health Maintenance Organization Claims*, The RAND Corporation, N-2347/2-HHS, August 1986.

[4]M. Nelsen and C. A. Edwards, *HIE References, Vol. I: Codes Used in HIE Claims--Diagnoses, Symptoms, Procedures, Drugs, and Supplies*, The RAND Corporation, N-2349/1-HHS, May 1986, hereafter referred to as *Codes Used*.

[5]W. G. Manning et al., "A Controlled Trial of the Effect of a Prepaid Group Practice on Use of Services," *The New England Journal of Medicine*, Vol. 310, June 7, 1984, pp. 1505-1510; and W. G. Manning et al., *A Controlled Trial of the Effect of a Prepaid Group Practice on the Utilization of Medical Services*, The RAND Corporation, R-3029-HHS, September 1985.

Table 3 lists the FFSCOMP files and presents a sample of variables found in each file. Only files for physician and hospital services are presented because they are the only services for which charges could be imputed. Charges for drugs, supplies, or institutional outpatient services could not be imputed because no relative value scales for standardizing such services were available; thus, no FFS comparison files are offered for them. Analysts wishing to examine the use of drugs, supplies, and institutional outpatient services must refer to the FFS and HMO line-item files cited above. GHC did not provide dental services and thus GHC participants obtained their dental care in the FFS sector; see the FFS dental files for records of claimed dental utilization by all HIE participants.

In this section, we discuss some important research considerations in using the Seattle FFS comparison files data.

HMO COMPARISON CONSIDERATIONS

The FFSCOMP data represent a comprehensive effort to minimize the differences that could occur between GHC-valued services and those delivered and billed in the FFS health care delivery system. These types of comparison considerations should be carefully weighed by researchers who plan to make their own comparisons of use.

There were several problems in comparing the use of health services in the HMO and FFS systems:

- The HMO sample population was located only in Seattle, making its comparison to populations in other locations difficult because of differences in the types of populations and the availability of health care.
- There were no charges for services in the HMO system.
- Physician/health professional procedures and services in each system were reported differently, i.e., there were often differences in the naming or itemization of such services.

Table 3

SEATTLE FEE-FOR-SERVICE CLAIMS FILES FOR HMO COMPARISON

	File	Sample	Variables
(01)	Inpatient Services Billed by Institutions	Hospital claims related to an inpatient stay in a hospital or nursing facility	Diagnoses, category of hospital service, actual FFS covered charges
(03)	Inpatient Physician Procedures Billed by Institutions	Hospital claims for hospital-employed physician procedures and services	Physician services, diagnoses, referral physicians, imputed covered charges
(06)	Services Rendered by Physicians	Claims by independent physicians and nonphysician health specialists for inpatient and outpatient services	Physician services, diagnoses, symptoms, referral physicians, imputed covered charges
(10)	Injections Administered by Physicians	Physician or health specialist claims for injections administered	Injected drugs, symptoms, diagnoses, referral physicians, imputed covered charges

Thus, to make a valid comparison of the intensity of use of FFS and HMO health care services, RAND analysts had to use comparable populations and standardized guidelines for valuing their use of health services. These goals were accomplished in the following manner:

- To establish comparable populations, FFS and HMO participants were chosen from the same urban population using the same criteria. Both populations had the same access to health care.[6]
- Because scales for standardizing the relative values of drugs, supplies, or institutional outpatient services were not available, no comparison files were created for such services.
- Hospital inpatient charges were found to be directly comparable because such charges were provided by GHC based on Seattle market values. Thus, actual FFS hospital inpatient charges are used in the FFSCOMP files.
- HMO and FFS physician/health professional procedures and services were established using *California Relative Value Studies* (CRVS) codes,[7] a coding system that defines physician/health professional procedures and services. CRVS units, which are unit values assigned to CRVS procedures based on their time requirements and relative complexity, were then used to impute physician/health professional charges in both systems.[8]

---

[6]Seattle FFS participants and HMO experimental group participants who left the Seattle area remained in the experiment and continued their insurance plans in new locations. Relocated HMO *experimental group* participants were generally switched to the "free" FFS plan; HMO *control group* members who moved were dropped from the experiment. Covered FFS use recorded during the Seattle area residency period of relocated HMO experimental group participants and relocated Seattle FFS participants remains in the FFSCOMP files. To identify these people, reference to the supplemental data file of the master sample series will be necessary. See Appendix B for order information.

[7]Codes were taken from the 1974 Revision, 5th Edition, *California Relative Value Studies*, California Medical Association, San Francisco, CA, 1975.

[8]Unit values are found in the CRVS manual cited above.

The imputation process for the physician/health professional charges involved a number of operations. To reflect the differing complexity and hence differing "value" of varying types of physician services, CRVS units are divided into general *types* of units according to the type of service (e.g., general health care or surgical). GHC bills non-GHC payers for each type of CRVS unit delivered (expressed in dollars/CRVS unit type). HIE analysts multiplied each of these GHC-provided ratios by the number of HIE-covered CRVS units for a given FFS service to impute a charge for that service.

As a test of the imputation process, the actual and imputed charges for Seattle FFS participants were compared, and the correlation was found to be in excess of 0.92 in each year.[9] However, when yearly totals were compared, the imputed total charges for the FFS system did not equal the actual total charges. In their study, Manning et al. created yearly factors of proportionality for use as correction factors. These correction factors were the ratios of total actual charges to total imputed charges across all files for a given type of service for each desired contract year. These yearly correction factors for each service type were then applied to the appropriate HMO or Seattle FFS imputed charges in their analysis. However, *this correction process was done in their analysis only*, and their correction factors were based on a specific analysis sample of line items rather than the entire set of Seattle FFS line items. Thus, the imputed charges presented here *do not* contain these correction factors.[10] Users may wish to use such correction factors in their own analyses and will have to create them using the above-described method for the population sample they are considering. To obtain the original FFS covered charges, users must match FFSCOMP line items to their FFS claims line-item counterparts using the method discussed below.

---

[9]Manning et al., op. cit. (1985).

[10]Such correction factors were used, however, in creating the HMO-Seattle FFS annual expenditures and visit counts file. If further information is required, the correction process is explained in detail in that file introduction. See Appendix B for order information.

As a final comparison consideration, researchers should note that HMO services associated with procedures that would have been billed as part of a lump-sum "package" of procedures in the FFS system (e.g. pre- and postsurgical services, and pre- and postnatal care) will tend to show up much more frequently in the HMO claims line-item files than such FFS services in the FFSCOMP files. This is because the FFS lump-sum "package" services were not billed or claimed separately and hence are not found in the FFS claims line-item files, whereas comparable HMO services and procedures *were* reported separately and thus appear with greater frequency in the HMO claims line items.

DATA SOURCES

The physician and hospital use data contained in the FFSCOMP files are taken from Files 01, 03, 06, and 10 of the FFS claims line-item files. The FFS claims line-item files contain line-item data pertaining to (1) insured Seattle FFS participants with any claimed use of health care services, and (2) GHC participants who used FFS services that were *not* covered by GHC.[11]

Data concerning FFS health care use by HMO participants are included in the FFSCOMP files to enable the user to compute the total imputed costs of HMO participants' health care; the imputed charges found here for non-GHC-covered FFS services can be added to the imputed charges for GHC-covered services found in the HMO claims line-item files.

SAMPLE POPULATION

The sample population in the FFSCOMP files consists of Seattle FFS participants who used FFS health services and GHC participants who used non-GHC-covered FFS services. However, it is important to remember that

[11]Records of FFS use by GHC participants that GHC covered were normally placed in the HMO claims line-item files; however, a few GHC-covered cases were also inadvertently included in the FFS claims line-item files. This is the only instance where duplicate records of services exist in the claims files. These duplicate records, however, do *not* exist in the FFSCOMP files; they were dropped when the comparison files were created.

the line-item files are based on *services* rather than participants; thus, if a participant used no health services during the experiment, there will be no record for that person in the claim line-item files. Below we discuss some characteristics of both populations.

FFS Participants

At enrollment, the Seattle FFS group comprised 1,213 persons in 481 families. Of this sample, 75 percent was enrolled for three years and the remainder for five years. Assignment to three- or five-year participation was made at random. Of these persons, 431 (162 families) were assigned to a plan that provided virtually all health care free, including the services of ancillary personnel such as speech therapists. The remaining 782 persons (319 families) were enrolled in cost-sharing insurance plans. These numbers fluctuated throughout the experiment as a result of births, attrition, and deaths.

HMO Participants

The HMO experimental and control groups together constituted slightly more than 1,800 people, which was approximately 60 percent of the total Seattle sample of about 3,100 people, and slightly less than 24 percent of all HIE participants.[12] Half of the HMO experimental group remained in the HIE for three years and the remaining half for five years, whereas all the control group members were enrolled for five years.

The experimental group was provided a package of benefits within GHC that matched as closely as possible the benefits available to the FFS enrollees. (FFS benefits were the same for all plans, but the coinsurance amounts varied.) When services covered by the HIE were not available at GHC (for example, dental and chiropractic services), these services were fully covered so that experimental group members could obtain them in the FFS sector. In other words, the HMO experimental group had "free" care that was comparable to the FFS plans, subject to

[12]Numbers are stated approximately because of changes in group compositions resulting from births, attrition, and deaths.

the restriction that care had to be obtained at GHC if GHC provided the service. If an experimental group participant chose to go to the FFS system for HIE-covered services that were available at GHC, the HIE reimbursed only 5 percent of the charge for those services.

Control group members were not provided a benefit package by the HIE; they retained whatever benefit package they had purchased by themselves or through an employer. As an incentive to report out-of-plan use, control group members were also reimbursed 5 percent of all out-of-plan HIE-covered health care expenses they reported.

CHARGES

All charges for services in the FFSCOMP files are listed in the variable IMPCHRG (Imputed Charge). Charges are expressed in *dollars and cents* for the year of service, unadjusted for inflation. The charges in these files are for *HIE-covered charges only*. Covered charges are defined as all health care expenses except those disqualified by HIE insurance adjustors or those specifically not covered by the participant's HIE insurance plan. The possible reasons for noncoverage of a service and their codes are listed in Appendix F. The issue of covered charges relates only to FFS charges; all GHC services are considered to be HIE-covered. If the variable IMPCHRG is equal to zero for a service in these files, it indicates that no portion of the charge for that service was covered by the participant's HIE insurance plan.

Inpatient Hospital Services

Although presented in the variable IMPCHRG, the charges for each hospital service presented in File 01 are the *actual* FFS covered hospital inpatient charges that were taken from the FFS claims line-item files.[13] The actual covered charges are used because they are directly comparable to the imputed hospital charges of GHC, which were based on FFS market values. GHC occasionally has reason to charge non-GHC people whom it treats for emergencies, and it periodically surveys the Seattle market to determine charges for such services. Inpatient

[13]Any noncovered portions of charged services in the FFS claims line-item files have been subtracted by HIE analysts.

"mock bills" that it provided to the HIE were therefore the actual charges that would have been billed if the person had not been covered for hospitalization.

Physician or Other Professional Services

Charges for each physician/health professional procedure or service found in Files 03, 06, and 10 of the FFSCOMP files were imputed using conversion formulas. The first step was to compute *covered* CRVS units from actual units using the formula:

$$\text{Covered CRVS units} = \frac{\text{covered portion of line-item charge}}{\text{line-item charge}} * \text{CRVS units for the procedure}$$

Expressed in variables, this becomes:

$$\text{CRVSUNIT} = \frac{\text{DEI5558} - \text{DEI5559}}{\text{DEI5558}} * \text{DEI5609}$$

Note that the above variables are found *only* on the FFS claims line-item files. They are variable DEI5558 (Line-item Charge), variable DEI5559 (Noncovered Charges),[14] and variable DEI5609 (CRVS Units).

Thus:

- If the procedure was entirely covered by the participant's HIE insurance plan, then the variable CRVSUNIT is equal to the full assigned number of units for the procedure.
- If the procedure was partially covered, then CRVSUNIT expresses the correct proportional number of covered units.

[14]Even though participant deductibles or coinsurance payments are treated as *noncovered* charges in the FFS claims line-item files for the purpose of reimbursements, such coinsurance amounts are included in the *covered* total charges presented in these files. This was done to enable the computation of *all* charges pertaining to HIE-covered health care services, rather than only the portion of such charges that the HIE reimbursed. Thus, in the computations above, DEI5559 was set to zero if it represented a deductible or coinsurance payment.

- If the cost of the entire procedure was not covered, then CRVSUNIT = 0.

Covered CRVS units were then converted into imputed charges (IMPCHRG) using the same dollars-per-CRVS-units used to calculate HMO charges. In a few cases, the actual CRVS units (DEI5609) were missing and could not be determined, and IMPCHRG was set equal to the actual covered FFS charge.

CRVS modifier codes (contained in the variables DEI5607 and DEI5608) were used to indicate special circumstances involved in certain physician services or procedures. A CRVS modifier of 1 was created to denote an unknown auxiliary service that was part of a lump-sum fee, i.e, part of a package of services such as those provided in prenatal care and delivery, or in pre- and postsurgical procedures. The physician did not specify these procedures, but listed them only as related to another major service (e.g., listing removal of stitches only as a "postoperative service"). Thus, these unspecified auxiliary services were assigned the CRVS code of the primary service to which they were related and given a modifier code of 1. However, it is the CRVS code of the service, not the modifier code, that is used in assigning CRVS units to a given procedure for the imputation of charges; thus, each auxiliary service having a CRVS modifier code of 1 would be imputed as a primary service unless the charge was adjusted. For this reason, RAND analysts computed and applied deflation factors to compensate for overassignments of CRVS units in cases involving CRVS modifier codes of 1.

Nonestablished CRVS Unit Values

Although on the whole, imputed charges are highly correlated with actual charges, the correlation may not be as high for a subset of procedures for which there were no established CRVS unit values at the time of the experiment. These procedures were assigned unit values by a RAND HIE physician. However, because these procedures were new, there was a great variance in charges throughout the FFS system, and thus the HIE-assigned unit value for a given service may reflect a dollar value

that is significantly different from the amount actually charged by the FFS physician or health professional.

USING THE SEATTLE FFS COMPARISON FILES

Linking Seattle FFS Comparison Records to FFS Records

Although each line-item record in the FFSCOMP files contains a claim identifier number, this is not sufficient to link records on these files with the original FFS records from which they were taken. To do so, users will have to *carefully* merge line items by person, claim number, provider, date of service, and type of service to make proper matches. This is because in cases of repetitive services, there may be multiple records with the same person, claim number, date, provider, and type of service. There is *no* unique identifier for a given line item in these files.

Line items have been successfully linked by first sorting and then merging records by the following order of variables: PERSON, DEI5553, DEI5502, DEI5555, DEI5606, DEI5607, AND DEI5608. In FFSCOMP File 06, for example, only 3 percent of the line items do not have a unique combination of those seven variables.

Variable Name Differences

In comparing records from the FFSCOMP files with those of the HMO claims line-item files, users should note the following differences in variable naming:

1. FFSCOMP Files 06 and 10 list three referral providers in the variables DEI5569, DEI5570, and DEI5571. In the corresponding HMO files, however, only two referral providers are listed--DEI5570 and DEI5571. Thus, in the HMO files, DEI5570 (1st Provider Referral) is equivalent to DEI5569 in the FFS comparison files, and DEI5571 (2nd Provider Referral) is equivalent to DEI5570 in the FFS files.

2. In FFSCOMP File 03, Inpatient Physician Procedures Billed by Institutions, DEI5502 (Provider Number) refers to the *hospital*. However, in HMO File 03, Inpatient Physician Services, DEI5502 represents the *primary or attending physician* because GHC designated this physician as the provider.

3. In FFSCOMP File 03, the variable DEI5515 lists the identifier number of the admitting physician; DEI5508 and DEI5509 list the first and second attending physicians, respectively. DEI5508 has a value only if the admitting physician did not remain as the primary physician. However, in HMO File 03, DEI5515 represents the admitting physician. This person often remained as the primary or first attending physician (DEI5502). HMO File 03, therefore, has no variable DEI5508 because DEI5502 identifies the first attending physician. As in the FFS files, DEI5509 lists the provider number of the second attending physician; it has a value only if the physician listed in DEI5502 did not remain as the primary physician.

RELATED FILES

FFS Claims Line-Item Files

The FFS claims line-item files[15] contain data pertaining to the use of FFS health services primarily by FFS participants during the course of the HIE. However, some data concerning the use of FFS services by HMO participants appear there--largely data involving HMO participants' claims for FFS care that were not covered by GHC. Because dental care was not available at GHC, *all* claimed dental use by GHC participants also appears in the FFS claims line-item files.

HMO Claims Line-Item Files

The HMO claims line-item files[16] contain data concerning the health services, drugs, and supplies provided to GHC experimental and control group participants by GHC. To reflect all GHC coverage, they also contain data concerning claims for FFS services provided to GHC participants that were covered by GHC.[17] Charges for hospital inpatient services and all physician services were imputed in the HMO claims line-item files, but charges for drugs, supplies, and hospital outpatient services could not be imputed and are not presented.

---

[15]Op. cit. See Appendix D for a list of these files.

[16]Op. cit. See Appendix E for a list of these files.

[17]As noted above, some of these claims were included in the FFS line-item files, and thus exist as duplicate records on the two files.

Aggregated Claims Series

Derived-variable files were created by aggregating the primary-variable claims line-item data in different ways to suit varied research purposes. Some of these derived-variable files may be of help to researchers for preliminary analyses because they represent a great number of calculations and aggregations that have already been made. Expenditures for health care were aggregated by participant contract year, by covered visits for health care, and by episodes of treatment. Table 4 presents the files in the aggregated claims series, with a brief summary of the variables contained in each file or set of files. For order information concerning these files, see Appendix B.

Master Sample Series

To select analytic subsamples using particular demographic and eligibility criteria, reference to the master sample series will be necessary. Volume 1, the eligibility-family changes file, provides data concerning eligibility and family changes among enrollees.[18] Volume 2, the full sample demographic file, presents demographic data for all enrollees and anyone considered for enrollment.[19] Volume 3, the supplemental data file, includes information about people who refused enrollment, Seattle participants who moved, and mothers of newborns.[20]

---

[18]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.

[19]S. M. Polich et al., *Master Sample Series, Vol. 2: Codebook for Full Sample Demographic File*, The RAND Corporation, N-2264/2-HHS, May 1986.

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

Table 4

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, and mental health expenditures (imputed); annual counts of hospitalizations, physician visits, nonphysician visits, and mental health 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.

THE CODEBOOKS

Organization

Each file in this volume has two main parts:

- Introduction: information on the data sources for the file, and notes concerning variables that require explanation.
- The file codebook: variable descriptions of each variable on the file. The variable descriptions are arranged in boxes, as in Fig. 1.

```
                                                FFS COMP FILE01
VARIABLE DEI5556   (Variable name)              (File label)

    Accommodation  (Variable label)

    CODES:  (Variable values and their definitions)

    1 - 1 bed (private)
    2 - 2 bed (semi-private)
    3 - 3 plus beds (ward)
    4 - Intensive care unit or coronary care unit
    5 - Intermediate care unit
    6 - Nursery
    7 - Isolation
    8 - Mental health ward or unit
    9 - Skilled nursing facility, semi-private

    DEI5556 defines the accommodations provided by
    the hospital.  (Explanation)
```

Fig. 1 -- Example of Codebook Format

Each box provides a basic description of the variable, including:

- Variable name, a unique letter-number combination beginning with DEI, for "data element indicator." In the above example, DEI5556 is the variable name.

- Variable label, a capsule description.
- Variable values and their definitions, if necessary.
- Explanation of the variable.

Below the boxes appear essential explanatory notes, if any. For most variables, at the right of each box will be a table of response frequencies (not shown in the example) that will indicate (1) response codes, (2) frequencies, (3) cumulative frequencies, (4) percentage of the frequency, and (5) cumulative percentage of the frequency. For continuous variables such as charges, the table will show statistics including (1) minimum and maximum values, (2) the mean value, and (3) standard deviation. Some variables, such as "Provider" or "Person Identifier" do not have tables of frequencies because there are too many values for concise presentation.

Identifying Variables

Five identifying variables precede the variables on every file in the claims codebooks: FILENAME, PERSON, SITE, INSTAT, and CONTYR. FILENAME denotes the particular file. PERSON identifies each respondent, permitting data to be gathered for a certain person across all files. SITE contains codes to identify the site where the participant enrolled.[21] INSTAT indicates a person's HIE insurance status:

- INSTAT = 1 indicates participants who were ever insured under the HIE, including the HMO experimental group.
- INSTAT = 2 identifies members of the Seattle HMO control group who were enrolled in the study but not insured under the HIE.
- INSTAT = 3 indicates participants who were never insured under the HIE.

[21] In the FFSCOMP files, all participants were in Seattle.

Thus, for the FFSCOMP files, INSTAT equals 1 (insured participants) or 2 (HMO control group members with FFS claims).

CONTYR (Contract Year) identifies the participant's contract year of coverage for which the health or dental claim was filed: 1-3 for three-year participants and 1-5 for five-year participants.

Codebook Use

Variable directories that list the variables in each file and their page locations in the text are found at the beginning of each codebook. File dictionaries containing the hardcopy versions of the tape dictionaries supplied with each file are found in Appendix C. The dictionaries provide (1) basic identifying data concerning the file, and (2) a listing of the variables by location.

To avoid unnecessary repetition and to make reference easier, explanations of variables that are used in most or all of the file codebooks are provided at the end of this section. Variables pertinent to certain files are explained in the relevant file introductions as they occur.

SPECIAL NOTES

- **The number of claims or visits should never be inferred from the frequencies.** In statistical analysis of these files, it is important to remember that the frequencies of the variables do *not* represent the number of claims or visits; they represent the number of line items. An example would be a physician who gave four injections. The physician identifier appears on four line-item records but represents only one visit and one claim. The frequencies are provided as a way for the user to verify that the HIE-provided tape has been properly read.
- The values of variables relating to dates were not edited for accuracy. Inaccurate information from respondents could not be changed on the collection forms, and there may be logical inconsistencies in some dates.

EXPLANATION OF COMMON VARIABLES

We discuss below some important facts about the common variables used within the Seattle FFS comparison files. Specific variables used within each file are explained in the file introductions.

Diagnoses

Four diagnosis variables (DEI5522, DEI5525, DEI5528, and DEI5531) appear in all files and list up to four possible diagnoses of the physician or other health service provider. HICDA codes are used to classify diagnoses.[22] Supplementary codes were added under the direction of a RAND HIE physician to describe diagnoses not adequately reflected by any existing HICDA code. All HICDA and supplementary diagnosis codes used in the following files, with their definitions, are found in Sec. I of *Codes Used*. Diagnosis codes have too many possible values for concise presentation, and the diagnosis frequencies are not presented in the codebooks. Diagnoses are listed in the order they appeared on the claim.

Each diagnosis is defined by three variables: (1) the actual diagnosis and, if included by the physician, (2) a diagnosis qualifier, and (3) an associated diagnosis. The possible qualifiers are "and, rule out, possible, probable, or question of, with or due to, not, or."

An example of a diagnosis would be "cold with fever" where "cold" is the actual diagnosis, "with" is the qualifier, and "fever" is the associated diagnosis. Occasionally, a physician could not make a diagnosis with certainty, and listed only an associated diagnosis. In such cases, coders left the diagnosis space blank and entered only the physician's qualifier and the associated diagnosis code, attempting to reproduce the physician's wording as closely as possible.

In health terminology, "rule out" is an implied command to the physician that means *try to rule out* or *prove it's not*. For example, a diagnosis might be written as "influenza rule out pneumonia." This

---

[22]Commission on Professional Hospital Activities, *Hospital Adaptation of the ICDA (International Classification of Diseases Adapted for Use in the United States)*, 2nd Edition (H-ICDA-2) Ann Arbor, MI, September 1973.

means the physician is considering the possibility that pneumonia may exist, but cannot yet conclude if it is "ruled in" or "ruled out." Therefore, he must make further efforts to rule it out as a possibility. Although "rule out" is a variation of "possible, probable, or question of," it was used to reproduce the physician's wording as closely as possible.

CRVS Code

CRVS codes are five-digit codes that identify the procedures and services of health professionals. These codes appear in Files 03, 06, and 10 and are contained in the variable DEI5606. A small number of supplementary codes were added under the direction of a RAND HIE physician to describe services not adequately reflected by any existing CRVS code. Standard CRVS codes and HIE-created supplementary codes used in these files can be found in Sec. II of *Codes Used*.

CRVS Unit

The variable CRVSUNIT indicates the *covered* unit value of the procedure defined in DEI5606. CRVSUNIT equals zero if none of the charge for the procedure was covered by the HIE. Some procedures found in the FFS line-item files lacked printed CRVS unit values (DEI5609 = 0). This was because the procedure may have been new or not clearly defined within CRVS parameters. In such cases, a RAND HIE physician assigned a unit value to the procedure or service, and it was processed in the same manner as CRVS-assigned units.

CRVS Modifiers

The variables DEI5607 and DEI5608, first and second CRVS modifiers, indicate codes for up to two special circumstances that may have been involved in the CRVS procedure shown in DEI5606, CRVS Code. These modifier codes are usually dependent upon the type of CRVS procedure involved; modifier code definitions can be found in the CRVS code manual cited above. The most frequently used modifiers were 80 (assistant surgeon for the procedure), 52 (incidental surgical procedure with reduced value), 58 (visit charge) included with charge for surgical procedure), 30-49 (related to anesthesia), and 26, 27 (related to

pathology and radiology interpretation). As discussed above, a CRVS modifier code of 1 was created to denote an unknown auxiliary service that was part of a lump-sum fee, i.e, part of a package of services such as those provided in prenatal care and delivery, or in pre- and postsurgical procedures.

Claim Number

The variable Claim Number (DEI5553) contains an identifying number that can be used to link the line items from a given claim.

Reason/Symptom for Visit

Three variables, DEI5503, DEI5505, and DEI5565 indicate up to three reasons/symptoms for the participant's visit to a physician or other health professional. Reasons/symptoms were coded from the *National Ambulatory Medical Care Survey: Symptom Classification* (NAMCS).[23] If the symptom did not appear on the NAMCS list, a code was assigned by the Health Insurance Experiment according to the category of the symptom. The reason-for-visit codes used in the claims files are defined in Sec. IV of *Codes Used*.

Treatment History/Status

A treatment history/status variable exists for each of the four possible diagnoses. Each treatment history/status variable indicates the nature of the participant's diagnosis/problem (i.e., chronic, acute, health maintenance, or pregnancy) and, in the case of a chronic or acute problem, whether this was an initial or repeat visit for the condition. The treatment history/status was filled in by the provider, but was incorrect or omitted on occasion, particularly if the patient had switched providers. For these reasons, coding clerks inspected all treatment history/status codes and changed them when necessary.

---

[23] National Center for Health Statistics, Washington, D.C., May 1974. Reprints available from National Technical Information Service, Springfield, VA (Document Number TB-289-245).

Diagnosis Relation to Service

In each file, four variables, DEI5596 - DEI5599, indicate whether a specific service is related to one or more of the four possible diagnoses.

Reason for Noncoverage

In the FFSCOMP files, imputed noncovered charges are not calculated. However, the variable DEI5560, Reason for Noncoverage, is provided on the FFSCOMP files to enable users to identify out-of-plan usage by GHC participants. A value of 44 or 45 in this variable indicates an FFS charge to a GHC participant that was not covered by GHC and was reimbursed 5 percent by the HIE.

III. INPATIENT SERVICES BILLED BY INSTITUTIONS SEATTLE FFS COMPARISON FILE 01

INTRODUCTION

This codebook documents primary variables concerning basic inpatient services provided by FFS hospitals or skilled nursing facilities to Seattle FFS participants and some HMO participants, as explained in Sec. II. The overwhelming majority of claims in this file come from hospitals.

Specific information for each record in this file includes the type of hospital service provided, the covered charge for the service,[1] the first date the service was rendered, the dates of the participant's admission and discharge, and the diagnoses provided by the hospital for that hospitalization. Other variables indicate the identifiers of the admitting and attending physicians, the discharge destination of the participant, and whether the hospitalization was accident- or employment-related.

To compute the total for a hospital's bill, the analyst may have to combine data from Files 01 and 03. To compute the total charge of a *hospital stay*, including independent physician charges, the analyst may need to include data from Files 06 and 10 as well. The analyst should also check to see whether more than one hospital claim was submitted for the course of a hospital stay.

In all but two cases in this file, a hospital stay can be defined by combining provider (the hospital) and date-of-admission variables. There are two people, however, who, for the same date of admission, have two different providers. These cases arose when laboratory tests sent out by the hospitals to other institutions were billed directly to the participant rather than to the first hospital.

---

[1] *Actual* covered charges are provided in the variable IMPCHRG in this file because they are directly comparable to the imputed covered charges found in File 01 of the HMO line-item files.

To avoid double-counting hospitalizations, analysts may also wish to note any back-to-back hospitalizations that occur. Back-to-back hospitalizations are defined as those in which the second admission was within one day of discharge from the first admission, was to the same hospital,[2] and was for the same or a related illness or condition.

The units of observation for this file are line items representing hospital services.[3] For an explanation of common variables used in this codebook, see the end of Sec. II. Below we discuss other characteristics of this file.

CATEGORY OF HOSPITAL SERVICE

The variable DEI5557, Category of Hospital Service, indicates the type of inpatient hospital service rendered to the participant. This variable also indicates whether the charge for the service is a specific charge, an averaged charge, or a lump-sum charge. Unless otherwise noted, most of the service categories indicate a single instance of a service (e.g., operating room fee) or the daily charge for a service (e.g., room and board). Such services were itemized by the hospital and therefore are repeated in the file according to the number of instances of the service or number of days of the hospital stay.

However, some hospitals would not or could not itemize services or charges, and special categories of service were created for them. For example, some used all-inclusive billing, a uniform daily rate for all services. Others used aggregated billing, where a total charge is presented for each service category without a day-by-day breakdown.

Whenever possible, these lump-sum charges were averaged to obtain a daily rate for certain services, and the averaged charges are repeated in the file according to the number of days of the hospital stay, i.e.,

---

[2]The requirement for admission to the same hospital applies only to FFS cases; HMO hospitalizations could have involved transfers to FFS hospitals. Thus, in comparing hospitalizations, only the HMO definition should be used.

[3]Analysts should note that the statistical frequency of a variable in this file represents the number of times it occurs in relation to the unit of observation, *not* the number of claims on which it appears.

there is one record for each hospital day. If it was impossible to obtain an average of charges, a category of service was assigned which states that the rendered services are part of a lump-sum charge, and exclusions from the lump sum are noted (for example, code value 28 is "Lump sum daily charge, excluding professional fee").

Excluded from the hospital service categories listed are most physician services, except certain hospital-based professional services such as pathology and radiology. Also excluded are physician services where the physician was serving as a hospital employee, such as in the case of a resident or staff physician. Hospital staff physician services are recorded in File 03.

CODEBOOK FOR SEATTLE FFS COMPARISON FILE 01

INPATIENT SERVICES BILLED BY INSTITUTIONS

DIRECTORY OF VARIABLES
SEATTLE FFS COMPARISON FILE 01

INPATIENT SERVICES BILLED BY INSTITUTIONS

VARIABLE NAME	DESCRIPTION	PAGE # IN CODEBOOK
FILENAME	Name of file	41
PERSON	Person Identifier	41
SITE	Site	41
INSTAT	Insurance status	42
CONTYR	Contract year	42
DEI5553	Claim number	43
DEI5502	Provider number	43
DEI5513	Admission date	43
DEI5555	Date of service	44
DEI5514	Discharge date	44
DEI5520	Discharge destination	45
DEI5521	Discharge institution	45
DEI5515	Admitting physician number	46
DEI5508	1st attending physician #	46
DEI5509	2nd attending physician #	47
DEI5519	Patient status	47
DEI5511	Accident related	48
DEI5512	Employment related	48
DEI5556	Accommodations	49
DEI5557	Category of hospital service	50
IMPCHRG	Imputed line-item charge	51
DEI5560	Reason for noncoverage	52
DEI5522	1st diagnosis	54
DEI5523	1st diagnosis qualifier	55
DEI5524	1st associated diagnosis	55
DEI5525	2nd diagnosis	56
DEI5526	2nd diagnosis qualifier	56
DEI5527	2nd associated diagnosis	57
DEI5528	3rd diagnosis	57
DEI5529	3rd diagnosis qualifier	58
DEI5530	3rd associated diagnosis	58
DEI5531	4th diagnosis	59
DEI5532	4th diagnosis qualifier	59
DEI5533	4th associated diagnosis	60

VARIABLE FILENAME FFS COMP FILE 01

Name of file

FILENAME is a 6-character code that uniquely identifies the file. This file name is DE012A.

FILENAME

VALUE	FREQ	CUM FREQ	%	CUM %
DE012A	13466	13466	100.00	100.00

VARIABLE PERSON FFS COMP FILE 01

Person identifier

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

VARIABLE SITE FFS COMP FILE 01

Site

CODES

2 - Seattle, Washington

SITE identifies the participant's place of residence when the participant enrolled. All fee-for-service records for comparison to HMO records come from Seattle.

SITE

VALUE	FREQ	CUM FREQ	%	CUM %
2	13466	13466	100.00	100.00

VARIABLE INSTAT — FFS COMP FILE 01

Insurance status

CODES

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

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

INSTAT

VALUE	FREQ	CUM FREQ	%	CUM %
1	13241	13241	98.33	98.33
2	225	13466	1.67	100.00

VARIABLE CONTYR — FFS COMP FILE 01

Contract year

CODES

01 - First year
02 - Second year
03 - Third year
04 - Fourth year
05 - Fifth year

CONTYR identifies the participant's contract year of coverage for which the claim was filed under the HIE.

CONTYR

VALUE	FREQ	CUM FREQ	%	CUM %
01	2855	2855	21.20	21.20
02	3946	6801	29.30	50.51
03	3611	10412	26.82	77.32
04	1766	12178	13.12	90.44
05	1288	13466	9.57	100.00

VARIABLE DE15553 FFS COMP FILE 01

Claim number

DE15553 indicates a claim identifier which is used to link the line items from a given MER.

VARIABLE DE15502 FFS COMP FILE 01

Provider number

DE15502 is an 8-character code which refers, in this file, to the hospital, nursing facility, or any other health care facility in which the participant was an inpatient. For further information on the provider, this number can be linked to information in the provider file of the HIE reference series.

VARIABLE DE15513 FFS-COMP FILE 01

Admission date

CODES

19760203 to 19810727 - Date range on file (YYYYMMDD)

DE15513 indicates the participant's hospital admission date.

VARIABLE DEI5555 FFS COMP FILE 01

Date of service

CODES

19760203 to 19810728 - Date range on file (YYYYMMDD)

DEI5555 indicates the initial date that the hospital service was rendered.

VARIABLE DEI5514 FFS COMP FILE 01

Discharge date

CODES

. - Not applicable, missing
19760204 to 19810728 - Date range on file (YYYYMMDD)

DEI5514 indicates the participant's hospital discharge date.

VARIABLE DEI5520 FFS COMP FILE 01

Discharge destination

CODES

. - Not applicable, missing
1 - Home
2 - Home, with home health care
3 - Hospital
4 - Skilled nursing facility
5 - Child care institution
6 - Intermediate care facility
7 - Other

DEI5520 states the destination of the patient upon leaving the hospital.

VARIABLE DEI5521 FFS COMP FILE 01

Discharge destination (institution)

CODES

blank - Not applicable, missing

DEI5521 indicates the identifier number of the participant's discharge destination if the participant was discharged to an institution (DEI5520 = 3 through 6).

DEI5520

VALUE	FREQ	CUM FREQ	%	CUM %
.	1599	.	.	.
1	11449	11449	96.48	96.48
3	217	11666	1.83	98.31
4	41	11707	0.35	98.65
6	23	11730	0.19	98.85
7	137	11867	1.15	100.00

VARIABLE DE15515 FFS COMP FILE 01

Admitting physician number

CODES

blank - Not applicable, missing

DE15515 indicates the admitting physician's identifier number. The admitting physician has primary responsibility for the patient's care while the participant is in the hospital. For more information on the physician, this number can be linked to information in the provider series files.

VARIABLE DE15508 FFS COMP FILE 01

1st attending physician number

CODES

blank - Not applicable, missing

DE15508 indicates the attending physician's identifier number. It was used only when the admitting physician (see DE15515) did not continue as the primary physician. For more information on the physician, this number can be linked to information in the provider files.

VARIABLE DEI5509 FFS COMP FILE 01

2nd attending physician number

CODES

blank - Not applicable, missing

DEI5509 indicates the second attending physician's identifier. It was used when the admitting physician (see DEI5515) and the first attending physician (see DEI5508) did not continue as the primary physician. For more information on the physician, this number can be linked to information in the provider files.

VARIABLE DEI5519 FFS COMP FILE 01

Patient status

CODES

1 - Discharged
2 - Deceased
3 - Inpatient

DEI5519 describes the patient's hospital status at the time the claim was submitted.

DEI5519

VALUE	FREQ	CUM FREQ	%	CUM %
1	11648	11648	86.50	86.50
2	89	11737	0.66	87.16
3	1729	13466	12.84	100.00

VARIABLE DEI5511 FFS COMP FILE 01

Accident-related

CODES

1 - Yes
2 - No

DEI5511 states whether the illness or injury was accident-related.

DEI5511

VALUE	FREQ	CUM FREQ	%	CUM %
1	1245	1245	9.25	9.25
2	12221	13466	90.75	100.00

VARIABLE DEI5512 FFS COMP FILE 01

Employment-related

CODES

1 - Yes
2 - No

DEI5512 states whether the illness or injury was employment-related.

DEI5512

VALUE	FREQ	CUM FREQ	%	CUM %
1	221	221	1.64	1.64
2	13245	13466	98.36	100.00

VARIABLE DE15556 FFS COMP FILE 01

Accommodations

CODES

. - Not applicable, missing
1 - 1 bed (private)
2 - 2 bed (semi-private)
3 - 3 plus beds (ward)
4 - Intensive Care Unit or Coronary Care Unit
5 - Intermediate care unit
6 - Nursery
7 - Isolation
8 - Mental health ward or unit
9 - Skilled nursing facility, semi-private

DE15556 defines the accommodations provided by the hospital.

NOTE: Code value #9 and code value #2 were used to record the same information, although #9 was used to record primarily nursing home data.

DE15556

VALUE	FREQ	CUM FREQ	%	CUM %
.	9250	.	.	.
1	341	341	8.09	8.09
2	2519	2860	59.75	67.84
3	294	3154	6.97	74.81
4	180	3334	4.27	79.08
5	57	3391	1.35	80.43
6	325	3716	7.71	88.14
7	3	3719	0.07	88.21
8	310	4029	7.35	95.57
9	187	4216	4.44	100.00

VARIABLE DEI5557 FFS COMP FILE 01

Category of hospital service

CODES

1 - Room and board
2 - Pharmacy
3 - X-ray
4 - Lab
5 - Miscellaneous hospital supplies
6 - Special lab, non-invasive
7 - Operating room, recovery supplies, cast room
8 - Operating room, supplies and anesthesia
9 - Professional: Hospital-based therapeutic services and related supplies
10 - Professional: hospital-based pathologist
11 - Professional: hospital-based radiologist
12 - Professional: hospital-based other - medication administration fee
13 - Kidney dialysis
14 - Hospital-based professional in Emergency Room
15 - Emergency Room
16 - Special duty nurse
17 - Blood, packed cells, etc.
18 - Take-home drugs
19 - Personal
20 - Special lab, invasive (procedures and supplies)
21 - Mental health procedures and supplies - mental health unit day care, electroconvulsive shock
22 - Pharmacy (hospital's total charge for this category, divided by the length of stay)
23 - X-ray (hospital's total charge for this category, divided by the length of stay)
24 - Laboratory, regular (hospital's total charge for this category, divided by the length of stay)
25 - Miscellaneous hospital supplies (hospital's total charge for this category, divided by the length of stay)
26 - Special lab, non-invasive (hospital's total charge for this category, divided by the length of stay)
27 - Therapeutic service (professional) (hospital's total charge for this category, divided by the length of stay)
28 - Lump sum daily charge, excluding professional fee
29 - Lump sum daily charge, including professional fee
30 - Miscellaneous, blood transportation charge, ambulance, cot for mother

(cont.)

DEI5557

VALUE	FREQ	CUM FREQ	%	CUM %
1	4193	4193	31.14	31.14
2	1949	6142	14.47	45.61
3	431	6573	3.20	48.81
4	1541	8114	11.44	60.26
5	1782	9896	13.23	73.49
6	198	10094	1.47	74.96
7	375	10469	2.79	77.74
8	203	10672	1.51	79.25
9	697	11369	5.18	84.43
10	14	11383	0.10	84.53
11	41	11424	0.30	84.84
12	188	11612	1.40	86.23
13	4	11616	0.03	86.26
14	54	11670	0.40	86.66
15	95	11765	0.71	87.37
16	9	11774	0.07	87.44
17	34	11808	0.25	87.69
18	126	11934	0.94	88.62
19	403	12337	2.99	91.62
20	16	12353	0.12	91.74
21	15	12368	0.11	91.85
22	494	12862	3.67	95.52
23	3	12865	0.02	95.54
24	86	12951	0.64	96.18
25	97	13048	0.72	96.90
27	132	13180	0.98	97.88
28	46	13226	0.34	98.22
29	21	13247	0.16	98.37
30	31	13278	0.23	98.60
31	5	13283	0.04	98.64
33	7	13290	0.05	98.69
37	24	13314	0.18	98.87
38	126	13440	0.94	99.81
39	17	13457	0.13	99.93
41	9	13466	0.07	100.00

VARIABLE DE15557 (cont.)

31 - Lump sum daily charge, excluding room and board
32 - Hyperalimentation - supplies and service
33 - Special surgical supplies (including cardiac pacemaker, Hunter tendon graft)
34 - Lump sum daily charge - nursery
35 - Insurance surcharge ("verticare")
36 - Dental clinic: hospital-based
37 - Anesthesia: professional (including anesthesia administration, anesthesia service, spinal block, etc.)
38 - Operating room/anesthesia supplies
39 - Anesthesia not otherwise specified
40 - Emergency Room, including professional fee
41 - Special blood procedures (including plasmaphoresis)

DE15557 categorizes each hospital service rendered to a participant while in the hospital. The charge for this service is found in IMPCHRG. Unless otherwise noted, the category refers to a single instance of the service or a daily charge for the service. Excluded are most physician services except for certain hospital-based physician services (radiology, pathology, etc.).

VARIABLE IMPCHRG FFS COMP FILE 01

Imputed line-item charge

IMPCHRG indicates the covered amount of the charge submitted to the HIE for the inpatient service found in DE15557, Category of Hospital Service. IMPCHRG is expressed in actual dollars for the year in which services were rendered, unadjusted for inflation. If the service was not covered in the participant's HIE insurance plan, the value of IMPCHRG is zero.

IMPCHRG

NUMBER OF OBSERVATIONS	13466
NUMBER OF MISSING	0
MEAN	57.95
MEDIAN	30.00
MINIMUM VALUE	0.00
MAXIMUM VALUE	2923.25
STANDARD DEVIATION	89.01
COEFFICIENT OF VARIATION	153.60
SKEWNESS	8.58

VARIABLE DE15560 FFS COMP FILE 01

Reason for noncoverage

CODES

. - Not applicable, missing
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 fifty-two 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 the 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 $25.00
20 - Not medically necessary
21 - Duplicate line item
22 - Amount paid on another Explanation of Benefits
23 - Service prior to 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

(cont.)

DE15560

VALUE	FREQ	CUM FREQ	%	CUM %
.	10563	.	.	.
1	46	46	1.59	1.59
2	398	444	13.71	15.30
14	1	445	0.03	15.33
19	1	446	0.03	15.36
20	13	459	0.45	15.81
22	1	460	0.03	15.85
25	26	486	0.90	16.74
28	1	487	0.03	16.78
31	1200	1687	41.34	58.11
32	112	1799	3.86	61.97
35	357	2156	12.30	74.27
42	82	2238	2.83	77.09
43	28	2266	0.97	78.06
44	190	2456	6.55	84.60
45	217	2673	7.48	92.08
46	13	2686	0.45	92.53
56	143	2829	4.93	97.45
58	1	2830	0.03	97.49
60	7	2837	0.24	97.73
63	1	2838	0.03	97.76
66	59	2897	2.03	99.79
71	1	2898	0.03	99.83
73	1	2899	0.03	99.86
74	4	2903	0.14	100.00

VARIABLE DE15560 (cont.)

28 - Blood credit
29 - Over-the-counter drugs
30 - Deductible not met
31 - Participant's coinsurance portion
32 - Services covered by workmen's compensation or employer's liability laws
33 - Pass through (covered by other insurance; payment from other company was "passed through" to provider or participant)
34 - Payment made
35 - Services covered by accident insurance policies
36 - Medicare paid
37 - Discount
38 - Not covered prepayment and deductible
39 - Not covered prepayment and coinsurance
40 - Discount and deductible not met
41 - Discount and coinsurance
42 - Paid by other insurance carrier
43 - Paid by agency other than insurance company
44 - Services obtained outside Group Health Cooperative
45 - Plan benefit is 5% of covered charges
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% or 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 - Workmen's compensation - charge coded as one cent, but true charge unknown
59 - Services rendered after termination date
60 - Claim in duplicate
61 - Participant not eligible
62 - Suspended
63 - No service
64 - Before enrollment date (SAME AS 23)
65 - Claim filed after time limit
66 - No charge

(cont.)

VARIABLE DEI5560 (cont.)

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
72 - Prepayment made (SAME AS 34)
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

DEI5560 describes the reason a service was not covered under the participant's HIE plan. The above code values were designed to cover all line-item records; not all values are appropriate in every file.

VARIABLE DEI5522 FFS COMP FILE 01

1st diagnosis

CODES

blank - Not applicable, missing

DEI5522 indicates the code of the first condition diagnosed by the physician. Codes were assigned in the order in which the diagnosis appeared on the record. In this file, DEI5522 is the discharge diagnosis. Diagnosis codes used in the HIE claims files are listed in Section I of "Codes Used."

VARIABLE DEI5523 FFS COMP FILE 01

1st diagnosis qualifier

CODES

1 - No qualifier given
2 - Rule out
3 - Probable/possible/?/question of
4 - With, associated with, complicated by, secondary to, due to
5 - Not, turned out not to be, was not
6 - Or, versus
9 - Well-care code assigned*

DEI5523 indicates a diagnosis qualifier for the first diagnosis. In some instances (i.e., codes 2, 3, 5), it is possible a diagnosis qualifier was used in the absence of a primary diagnosis.

*NOTE: Value #9 is not a true diagnosis qualifier. Occasionally, health maintenance procedures were performed by the provider which did not pertain to any of the diagnoses on the SERR. In such cases, coders assigned a well-care code from the H-ICDA-2, and it was notated in this variable.

VARIABLE DEI5524 FFS COMP FILE 01

1st associated diagnosis

CODES

blank - Not applicable, missing

DEI5524 indicates the associated diagnosis code when required by the diagnosis qualifier.

DEI5523

VALUE	FREQ	CUM FREQ	%	CUM %
1	11824	11824	87.81	87.81
2	182	12006	1.35	89.16
3	189	12195	1.40	90.56
4	1260	13455	9.36	99.92
6	11	13466	0.08	100.00

VARIABLE DEI5525 FFS COMP FILE 01

2nd diagnosis

CODES

blank - Not applicable, missing

DEI5525 indicates the code of a second condition diagnosed by the physician. Codes were assigned in the order in which the diagnosis appeared on the record. Diagnosis codes used in the HIE claims files are listed in Section I of "Codes Used."

VARIABLE DEI5526 FFS COMP FILE 01

2nd diagnosis qualifier

CODES

. - Not applicable, missing
1 - No qualifier given
2 - Rule out
3 - Probable/possible/?/question of
4 - With, associated with, complicated by, secondary to, due to
5 - Not, turned out not to be, was not
6 - Or, versus
9 - Well-care code assigned*

DEI5526 indicates a diagnosis qualifier for the 2nd diagnosis. In some instances (i.e., codes 2, 3, 5), it is possible a diagnosis qualifier was used in the absence of a primary diagnosis.

*NOTE: See note on DEI5523.

DEI5526

VALUE	FREQ	CUM FREQ	%	CUM %
.	9504	.	.	.
1	3560	3560	89.85	89.85
2	27	3587	0.68	90.54
3	70	3657	1.77	92.30
4	305	3962	7.70	100.00

VARIABLE DEI5527 FFS COMP FILE 01

2nd associated diagnosis

CODES

blank - Not applicable, missing

DEI5527 indicates the associated diagnosis code when required by the diagnosis qualifier.

VARIABLE DEI5528 FFS COMP FILE 01

3rd diagnosis

CODES

blank - Not applicable, missing

DEI5528 indicates the code of a third condition diagnosed by the physician. Codes were assigned in the order in which the diagnosis appeared on the record. Diagnosis codes used in the HIE claims files are listed in Section I of "Codes Used."

VARIABLE DEI5529 FFS COMP FILE 01

3rd diagnosis qualifier

CODES

. - Not applicable, missing
1 - No qualifier
2 - Rule out
3 - Probable/possible/?/question of
4 - With, associated with, complicated by, secondary to, due to
5 - Not, turned out not to be, was not
6 - Or, versus
9 - Well-care code assigned*

DEI5529 indicates a diagnosis qualifier for the 3rd diagnosis. In some instances (i.e., codes 2, 3, 5), it is possible a diagnosis qualifier was used in the absence of a primary diagnosis.

*NOTE: See note on DEI5523.

VARIABLE DEI5530 FFS COMP FILE 01

3rd associated diagnosis

CODES

blank - Not applicable, missing

DEI5530 indicates the associated diagnosis code when required by the qualifier.

DEI5529

VALUE	FREQ	CUM FREQ	%	CUM %
.	12184	.	.	.
1	1170	1170	91.26	91.26
3	8	1178	0.62	91.89
4	104	1282	8.11	100.00

VARIABLE DEI5531 FFS COMP FILE 01

4th diagnosis

CODES

blank - Not applicable, missing

DEI5531 indicates the code of a fourth condition diagnosed by the physician. Codes were assigned in the order in which the diagnosis appeared on the record. Diagnosis codes used in the HIE claims files are listed in Section I of "Codes Used."

VARIABLE DEI5532 FFS COMP FILE 01

4th diagnosis qualifier

CODES

. - Not applicable, missing
1 - No qualifier given
2 - Rule out
3 - Probable/possible/?/question of
4 - With, associated with, complicated by, secondary to, due to
5 - Not, turned out not to be, was not
6 - Or, versus
9 - Well-care code assigned*

DEI5532 indicates a diagnosis qualifier for the 4th diagnosis. In some instances (i.e., codes 2, 3, 5), it is possible that a diagnosis qualifier could be used in the absence of a primary diagnosis.

*NOTE: See note on DEI5523.

DEI5532

VALUE	FREQ	CUM FREQ	%	CUM %
.	12961	.	.	.
1	470	470	93.07	93.07
4	35	505	6.93	100.00

VARIABLE DE15533 FFS COMP FILE 01

4th associated diagnosis

CODES

blank - Not applicable, missing

DE15533 indicates the associated diagnosis code when required by the qualifier.

IV. INPATIENT PHYSICIAN PROCEDURES BILLED BY INSTITUTIONS SEATTLE FFS COMPARISON FILE 03

INTRODUCTION

This codebook documents primary variables concerning inpatient CRVS-codable procedures and services rendered by FFS physicians and health professionals that were billed by institutions, i.e., cases where the doctor was functioning as a hospital employee, such as a resident or staff physician. The majority of services listed in this file were provided to Seattle FFS participants but also include some FFS services rendered to HMO participants, as discussed in Sec. II.

If the hospital did not itemize the services of staff physicians, but only presented an all-inclusive bill for a participant's hospitalization, the charges for those services will appear in File 01. The staff physician services listed in this file constitute a small segment of total physician services rendered; the bulk of FFS physician services were those performed by independent physicians; outpatient *and* inpatient services of such physicians are recorded in File 06. If an inpatient physician procedure or service was not codable by CRVS (e.g., some radiology, pathology and emergency room services), then it was recorded as a hospital service in variable DEI5557, Category of Hospital Service, in File 01.

Specific information provided in this file includes the type of procedure or service performed by the physician (as defined by CRVS code), the *imputed charge* for the procedure or service, the identifiers of the admitting and attending physicians, the admission and discharge dates, and the discharge destination of the participant. Other variables indicate the diagnoses provided by the hospital and whether the hospitalization was accident- or employment-related.

The units of observation in this file are line items representing inpatient physician services billed by institutions.[1] For an explanation of common variables used in this codebook, see the end of Sec. II. Below we discuss other characteristics of this file.

---

[1]Analysts should note that the statistical frequency of a variable in this file represents the number of times it occurs in relation to the unit of observation, *not* the number of claims on which it appears.

HMO COMPARISON CONSIDERATIONS

Analysts should note that there is a difference between the variable DEI5502 (Provider Number) in this file and in the inpatient physician service file (File 03) in the HMO claims line-item files. In the Seattle FFS comparison files, DEI5502, Provider Number, refers only to the *hospital* in which the participant was an inpatient. However, in HMO File 03, a GHC hospital is understood to be the overall provider, and DEI5502 (Provider Number) refers to the first attending physician, i.e., the physician whom GHC designated as the primary provider for the participant. Thus, for comparison purposes, DEI5502 (Provider Number) in the HMO files is equivalent to DEI5515 (Admitting Physician) in the Seattle FFS comparison files, if the admitting physician remained as primary physician. Otherwise, it is equivalent to DEI5508 (First Attending Physician).

DEI5508 in the Seattle FFS comparison files has a value only if the first attending physician became the primary physician--otherwise, its value is shown as missing. However, in HMO File 03, DEI5508 does not appear, and DEI5502 has a value even if the admitting physician (DEI5515) remained as the primary physician; in that case, the physician's provider number appears in both DEI5502 and DEI5515.

HMO File 03 has far more records than its FFS counterpart; this reflects the difference between FFS and HMO data collection and does not reflect a difference in the use of hospital staff. A hospital staff physician service appears in FFS File 03 only if the service was separately identified on the inpatient MER. Generally, such services were included as part of the hospital charges (and thus appear in FFS File 01) and very few were separately charged. In addition, FFS inpatient physician services are generally provided by independent physicians whose services appear in FFS Files 06 and 10. In contrast, because HMO File 03 physician services were abstracted by the HIE directly from hospital records, hospital staff physician services were separately identified and hence are far more prevalent in HMO File 03.

CODEBOOK FOR SEATTLE FFS COMPARISON FILE 03

INPATIENT PHYSICIAN PROCEDURES BILLED BY INSTITUTIONS

DIRECTORY OF VARIABLES
SEATTLE FFS COMPARISON FILE 03

INPATIENT PHYSICIAN PROCEDURES BILLED BY INSTITUTIONS

VARIABLE NAME	DESCRIPTION	PAGE # IN CODEBOOK
FILENAME	Name of file	65
PERSON	Person identifier	65
SITE	Site	65
INSTAT	Insurance status	66
CONTYR	Contract year	66
DEI5553	Claim number	67
DEI5502	Provider number	67
DEI5513	Admission date	67
DEI5555	Date of service	68
DEI5514	Discharge date	68
DEI5515	Admitting physician number	69
DEI5508	1st attending physician number	69
DEI5509	2nd attending physician number	70
DEI5511	Accident related	70
DEI5512	Employment related	71
DEI5606	CRVS code	71
CRVSUNIT	Covered CRVS units	72
IMPCHRG	Imputed line-item charge	72
DEI5560	Reason for noncoverage	73
DEI5522	1st diagnosis	75
DEI5523	1st diagnosis qualifier	76
DEI5524	1st associated diagnosis	76
DEI5525	2nd diagnosis	77
DEI5526	2nd diagnosis qualifier	77
DEI5527	2nd associated diagnosis	78
DEI5528	3rd diagnosis	78
DEI5529	3rd diagnosis qualifier	79
DEI5530	3rd associated diagnosis	79
DEI5531	4th diagnosis	80
DEI5532	4th diagnosis qualifier	80
DEI5533	4th associated diagnosis	81

VARIABLE FILENAME — FFS COMP FILE 03

Name of file

FILENAME is a 6-character code that uniquely identifies the file. This file name is DE032A.

FILENAME

VALUE	FREQ	CUM FREQ	%	CUM %
DE032A	815	815	100.00	100.00

VARIABLE PERSON — FFS COMP FILE 03

Person identifier

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

VARIABLE SITE — FFS COMP FILE 03

Site

CODES

2 - Seattle, Washington

SITE identifies the participant's place of residence when the participant enrolled. All fee-for-service records for comparison to HMO records come from Seattle.

SITE

VALUE	FREQ	CUM FREQ	%	CUM %
2	815	815	100.00	100.00

VARIABLE INSTAT FFS COMP FILE 03

Insurance status

CODES

1 - Ever insured
2 - Ever assigned to HMO control group
3 - Never insured

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

INSTAT

VALUE	FREQ	CUM FREQ	%	CUM %
1	815	815	100.00	100.00

VARIABLE CONTYR FFS COMP FILE 03

Contract year

CODES

01 - First year
02 - Second year
03 - Third year
04 - Fourth year
05 - Fifth year

CONTYR identifies the participant's contract year of coverage for which the claim was filed under the HIE.

CONTYR

VALUE	FREQ	CUM FREQ	%	CUM %
01	25	25	3.07	3.07
02	462	487	56.69	59.76
03	322	809	39.51	99.26
05	6	815	0.74	100.00

VARIABLE DEI5553 FFS COMP FILE 03

Claim number

DEI5553 indicates a claim identifier which is used to link the line items from a given MER.

VARIABLE DEI5502 FFS COMP FILE 03

Provider number

DEI5502 is an 8-character code which refers, in this file, to the hospital, nursing facility, or any other health care facility in which the participant was an inpatient. For further information on the provider, this number can be linked to information in the provider file of the HIE reference series.

NOTE: In HMO File03, DEI5502 refers to the physician and not the hospital.

VARIABLE DEI5513 FFS COMP FILE 03

Admission date

CODES

19770209 to 19800711 - Range on this file (YYYYMMDD)

DEI5513 indicates the participant's hospital admission date. The range of admission dates in the file is shown here.

VARIABLE DE15555 FFS COMP FILE 03

Date of service

CODES

19770227 to 19800803 - Range on this file (YYYYMMDD)

DE15555 indicates the initial date that the hospital physician service was rendered.

VARIABLE DE15514 FFS COMP FILE 03

Discharge date

CODES

. - Not applicable, missing
19770309 to 19800803 - Range on this file (YYYYMMDD)

DE15514 indicates the participant's hospital discharge date.

VARIABLE DEI5515 FFS COMP FILE 03

Admitting physician number

CODES

blank - Not applicable, missing

DEI5515 indicates the admitting physician's identifier number. The admitting physician has primary responsibility for the patient's care while the participant is in the hospital. For more information on the physician, this number can be linked to information in the provider series files.

VARIABLE DEI5508 FFS COMP FILE 03

1st attending physician number

CODES

blank - Not applicable, missing

DEI5508 indicates the attending physician's identifier number. It was used only when the admitting physician (see DEI5515) did not continue as the primary physician. For more information on the physician, this number can be linked to information in the provider series files.

NOTE: This variable does not exist in HMO File 03 because the attending physician appears in DEI5502 in that file.

VARIABLE DEI5509 FFS COMP FILE 03

2nd attending physician number

CODES

blank - Not applicable, missing

DEI5509 indicates the second attending physician's identifier. It was used when the admitting physician (see DEI5515) and the first attending physician (see DEI5508) did not continue as the primary physician. For more information on the physician, this number can be linked to information in the provider series files.

VARIABLE DEI5511 FFS COMP FILE 03

Accident-related

CODES

1 - Yes
2 - No

DEI5511 states whether the illness or injury was accident-related.

DEI5511

VALUE	FREQ	CUM FREQ	%	CUM %
1	9	9	1.10	1.10
2	806	815	98.90	100.00

VARIABLE DE15512 FFS COMP FILE 03

Employment-related

CODES

1 - Yes
2 - No

DE15512 states whether the illness or injury was employment-related.

DE15512

VALUE	FREQ	CUM FREQ	%	CUM %
1	22	22	2.70	2.70
2	793	815	97.30	100.00

VARIABLE DE15606 FFS COMP FILE 03

CRVS code

DE15606 indicates a five-digit California Relative Value Studies (CRVS) code identifying the service provided by the physician; the imputed covered charge for this service is found in IMPCHRG. CRVS codes used in the HIE claims files are defined in Section II of "Codes Used." A small number of codes were added under the direction of a Rand HIE physician to describe services not adequately reflected by any existing CRVS code. Those codes are also defined in the supplementary volume.

VARIABLE CRVSUNIT — FFS COMP FILE 03

Covered CRVS units

CRVSUNIT is the covered portion of the unit value of the procedure in DE15606, as given in the 1974 revision of the CRVS published in 1975. CRVSUNIT is expressed in units and equals zero if none of the charge associated with the procedure was covered by the HIE.

CRVSUNIT

NUMBER OF OBSERVATIONS	815
NUMBER OF MISSING	0
MEAN	8.45
MEDIAN	5.10
MINIMUM VALUE	0.00
MAXIMUM VALUE	18.50
STANDARD DEVIATION	5.70
COEFFICIENT OF VARIATION	67.44
SKEWNESS	0.20
KURTOSIS	-1.51

VARIABLE IMPCHRG — FFS COMP FILE 03

Imputed line-item charge

IMPCHRG indicates the imputed covered charge calculated by HIE analysts for the CRVS procedure defined in DE15606, CRVS code. The imputed charge was based on the date of service, the covered CRVS units for the service (CRVSUNIT), and a dollar amount per CRVS unit taken from conversion tables. Imputed charges are expressed in actual dollars for the year services were rendered, unadjusted for inflation, and represent charges for services covered in the HIE contract.

IMPCHRG

NUMBER OF OBSERVATIONS	815
NUMBER OF MISSING	0
MEAN	32.94
MEDIAN	19.64
MINIMUM VALUE	0.00
MAXIMUM VALUE	82.32
STANDARD DEVIATION	22.55
COEFFICIENT OF VARIATION	68.44
SKEWNESS	0.22
KURTOSIS	-1.51

VARIABLE DEI5560 FFS COMP FILE 03

Reason for noncoverage

CODES

. - Not applicable, missing
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 fifty-two 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 the 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 $25.00
20 - Not medically necessary
21 - Duplicate line item
22 - Amount paid on another Explanation of Benefits
23 - Service prior to 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

(cont.)

DEI5560

VALUE	FREQ	CUM FREQ	%	CUM %
.	772	.	.	.
66	22	22	51.16	51.16
73	18	40	41.86	93.02
74	3	43	6.98	100.00

VARIABLE DE15560 (cont.)

28 - Blood credit
29 - Over-the-counter drugs
30 - Deductible not met
31 - Participant's coinsurance portion
32 - Services covered by workmen's compensation or employer's liability laws
33 - Pass through (covered by other insurance; payment from other company was "passed through" to provider or participant)
34 - Payment made
35 - Services covered by accident insurance policies
36 - Medicare paid
37 - Discount
38 - Not covered prepayment and deductible
39 - Not covered prepayment and coinsurance
40 - Discount and deductible not met
41 - Discount and coinsurance
42 - Paid by other insurance carrier
43 - Paid by agency other than insurance company
44 - Services obtained outside Group Health Cooperative
45 - Plan benefit is 5% of covered charges
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% or 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 - Workmen's compensation - charge coded as one cent, but true charge unknown
59 - Services rendered after termination date
60 - Claim in duplicate
61 - Participant not eligible
62 - Suspended
63 - No service
64 - Before enrollment date (SAME AS 23)
65 - Claim filed after time limit
66 - No charge

(cont.)

VARIABLE DE15560 (cont.)

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
72 - Prepayment made (SAME AS 34)
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

DE15560 describes the reason a service was not covered under the participant's HIE plan. The above code values were designed to cover all line-item records; not all values are appropriate in every file.

VARIABLE DE15522 FFS COMP FILE 03

1st diagnosis

CODES

blank - Not applicable, missing

DE15522 indicates the code of the first condition diagnosed by the physician. Codes were assigned in the order in which the diagnosis appeared on the claim. In this file, DE15522 is the discharge diagnosis. Diagnosis codes used in the HIE claims files are listed in Section I of "Codes Used."

VARIABLE DEI5523 FFS COMP FILE 03

1st diagnosis qualifier

CODES

1 - No qualifier given
2 - Rule out
3 - Probable/possible/?/question of
4 - With, associated with, complicated by, secondary to, due to
5 - Not, turned out not to be, was not
6 - Or, versus
9 - Well-care code assigned*

DEI5523 indicates a diagnosis qualifier for the first diagnosis. In some instances (i.e., codes 2, 3, 5), it is possible a diagnosis qualifier was used in the the absence of a primary diagnosis.

*NOTE: Value #9 is not a true diagnosis qualifier. Occasionally, health maintenance procedures were performed by the provider which did not pertain to any of the diagnoses on the MER. In such cases, coders assigned a well-care code from the H-ICDA-2, and it was notated in this variable.

VARIABLE DEI5524 FFS COMP FILE 03

1st associated diagnosis

CODES

blank - Not applicable, missing

DEI5524 indicates the associated diagnosis code when required by the diagnosis qualifier.

DEI5523

VALUE	FREQ	CUM FREQ	%	CUM %
1	806	806	98.90	98.90
2	1	807	0.12	99.02
4	8	815	0.98	100.00

VARIABLE DEI5525 FFS COMP FILE 03

2nd diagnosis

CODES

blank - Not applicable, missing

DEI5525 indicates the code of a second condition diagnosed by the physician. Codes were assigned in the order in which the diagnosis appeared on the claim. Diagnosis codes used in the HIE claims files are listed in Section I of "Codes Used."

VARIABLE DEI5526 FFS COMP FILE 03

2nd diagnosis qualifier

CODES

. - Not applicable, missing
1 - No qualifier given
2 - Rule out
3 - Probable/possible/?/question of
4 - With, associated with, complicated by, secondary to, due to
5 - Not, turned out not to be, was not
6 - Or, versus
9 - Well-care code assigned*

DEI5526 indicates a diagnosis qualifier for the second diagnosis. In some instances (i.e., codes 2, 3, 5), it is possible a diagnosis qualifier was used in the absence of a primary diagnosis.

*NOTE: See note on DEI5523.

DEI5526

VALUE	FREQ	CUM FREQ	%	CUM %
.	458	.	.	.
1	354	354	99.16	99.16
4	3	357	0.84	100.00

VARIABLE DEI5527 FFS COMP FILE 03

2nd associated diagnosis

CODES

blank - Not applicable, missing

DEI5527 indicates the associated diagnosis code when required by the qualifier.

VARIABLE DEI5528 FFS COMP FILE 03

3rd diagnosis

CODES

blank - Not applicable, missing

DEI5528 indicates the code of a third condition diagnosed by the physician. Codes were assigned in the order in which the diagnosis appeared on the claim. Diagnosis codes used in the HIE claims files are listed in Section I of "Codes Used."

VARIABLE DEI5529 FFS COMP FILE 03

3rd diagnosis qualifier

CODES

. - Not applicable, missing
1 - No qualifier
2 - Rule out
3 - Probable/possible/?/question of
4 - With, associated with, complicated by, secondary to, due to
5 - Not, turned out not to be, was not
6 - Or, versus
9 - Well-care code assigned*

DEI5529 indicates a diagnosis qualifier for the third diagnosis. In some instances (i.e., codes 2, 3, 5), it is possible a diagnosis qualifier was used in the absence of a primary diagnosis.

*NOTE: See note on DEI5523.

VARIABLE DEI5530 FFS COMP FILE 03

3rd associated diagnosis

CODES

blank - Not applicable, missing

DEI5530 indicates the associated diagnosis code when required by the qualifier.

DEI5529

VALUE	FREQ	CUM FREQ	%	CUM %
.	703	.	.	.
1	112	112	100.00	100.00

VARIABLE DEI5531 FFS COMP FILE 03

4th diagnosis

CODES

blank - Not applicable, missing

DEI5531 indicates the code of a fourth condition diagnosed by the physician. Codes were assigned in the order in which the diagnosis appeared on the claim. Diagnosis codes used in the HIE claims files are listed in Section I of "Codes Used."

VARIABLE DEI5532 FFS COMP FILE 03

4th diagnosis qualifier

CODES

. - Not applicable, missing
1 - No qualifier given
2 - Rule out
3 - Probable/possible/?/question of
4 - With, associated with, complicated by, secondary to, due to
5 - Not, turned out not to be, was not
6 - Or, versus
9 - Well-care code assigned*

DEI5532 indicates a diagnosis qualifier for the fourth diagnosis. In some instances (i.e., codes 2, 3, 5), it is possible that a diagnosis qualifier could be used in the absence of a primary diagnosis.

*NOTE: See note on DEI5523.

DEI5532

VALUE	FREQ	CUM FREQ	%	CUM %
.	714	.	.	.
1	101	101	100.00	100.00

VARIABLE DE15533 FFS COMP FILE 03

4th associated diagnosis

CODES

blank - Not applicable, missing

DE15533 indicates the associated diagnosis code when required by the qualifier.

V. SERVICES RENDERED BY PHYSICIANS SEATTLE FFS COMPARISON FILE 06

INTRODUCTION

This codebook documents primary variables concerning outpatient *and* inpatient services rendered to Seattle participants by independent FFS physicians and other health professionals.[1] The majority of services listed in this file were provided to Seattle FFS participants but also include some FFS health services rendered to HMO participants, as discussed in Sec. II.

Outpatient radiology, pathology, and emergency room physician services performed by independent physicians are included here. However, *not* included here are *inpatient hospital-based* physician services (e.g., radiologists, pathologists, and emergency room physicians). Such services are coded in File 01 as a Category of Hospital Service. Also not included are procedures where the physician was functioning as a hospital employee, such as a resident or a staff physician. Those services can be found in File 03.

Specific information provided in this file includes the specific service rendered by the physician, the *imputed charge* for that service, the reasons/symptoms for the visit to the physician, the date of the symptom's first appearance according to the participant, the date and place of the service, and variables indicating whether the participant's visit was accident- or employment-related. Also included are variables that indicate the referral physicians (if any), the diagnosis to which each service is related, and the treatment/history status of the diagnosis.

The units of observation in this file are line items representing the services of physicians and other health professionals.[2] For an

---

[1]Such health professionals can include psychologists, speech and physical therapists, chiropractors, podiatrists, acupuncturists, and Christian Science healers.

[2]Analysts should note that the statistical frequency of a variable in this file represents the number of times it occurs in relation to the unit of observation, *not* the number of claims on which it appears.

explanation of common variables used in this codebook, see the end of Sec. II. Below we discuss some considerations in using this file.

HMO COMPARISON CONSIDERATIONS

Analysts should note that inpatient and outpatient physician services are both found in Seattle FFS Comparison File 06 (as they are in the FFS claims line-item files) and that inpatient services rendered by staff physicians are found in File 03. However, outpatient and inpatient services have been separated into different files in the HMO claims line-item files; outpatient physician services are found in HMO File 06 and inpatient physician services are in HMO File 03.

CODEBOOK FOR SEATTLE FFS COMPARISON FILE 06

SERVICES RENDERED BY PHYSICIANS

DIRECTORY OF VARIABLES
SEATTLE FFS COMPARISON FILE 06

SERVICES RENDERED BY PHYSICIANS

VARIABLE FILENAME — FFS COMP FILE 06

Name of file

FILENAME is a 6-digit code that uniquely identifies the file. This file name is DE062A.

FILENAME

VALUE	FREQ	CUM FREQ	%	CUM %
DE062A	53381	53381	100.00	100.00

VARIABLE PERSON — FFS COMP FILE 06

Person identifier

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

VARIABLE SITE — FFS COMP FILE 06

Site

CODES

2 - Seattle, Washington

SITE identifies the participant's place of residence when the participant enrolled. All fee-for-service records for comparison to HMO records come from Seattle.

SITE

VALUE	FREQ	CUM FREQ	%	CUM %
2	53381	53381	100.00	100.00

VARIABLE INSTAT FFS COMP FILE 06

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

VALUE	FREQ	CUM FREQ	%	CUM %
1	52274	52274	97.93	97.93
2	1107	53381	2.07	100.00

VARIABLE CONTYR FFS COMP FILE 06

Contract year

CODES

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.

CONTYR

VALUE	FREQ	CUM FREQ	%	CUM %
01	13947	13947	26.13	26.13
02	14731	28678	27.60	53.72
03	15271	43949	28.61	82.33
04	4781	48730	8.96	91.29
05	4651	53381	8.71	100.00

VARIABLE DE15553 FFS COMP FILE 06

Claim number

DE15553 indicates a claim identifier which is used to link the line items from a given MER.

VARIABLE DE15502 FFS COMP FILE 06

Provider number

DE15502 is an 8-character code which refers, in this file, to the physician who provided services for the participant. For further information on the provider, this number can be linked to information in the provider series files of the HIE reference series.

VARIABLE DE15555 FFS COMP FILE 06

Date of service

CODES

19760105 to 19810831 - Range on this file (YYYYMMDD)

DE15555 indicates the date on which the service was rendered. If a service was rendered over multiple dates, this variable is the initial date of service.

VARIABLE DEI5584 FFS COMP FILE 06

Place of service

CODES

. - Missing
1 - Doctor's office
2 - Independent laboratory
3 - Patient's home
4 - Hospital
5 - Nursing home
6 - Emergency room
7 - Outpatient surgery
8 - Other outpatient hospital, including hospital clinic
9 - Other locations, including non-hospital clinics

DEI5584 indicates where the physician rendered medical services.

DEI5584

VALUE	FREQ	CUM FREQ	%	CUM %
.	4	.	.	.
1	41637	41637	78.01	78.01
2	1833	43470	3.43	81.44
3	220	43690	0.41	81.85
4	3924	47614	7.35	89.20
5	2	47616	0.00	89.21
6	1716	49332	3.22	92.42
7	137	49469	0.26	92.68
8	2694	52163	5.05	97.73
9	1214	53377	2.27	100.00

VARIABLE DEI5503 FFS COMP FILE 06

1st reason/symptom for visit

CODES

Blank - Not applicable, missing

DEI5503 indicates the code for the first reason the participant went to see a physician. All reason-for-visit codes used in the claims line-item files are listed in Section IV of "Codes Used."

NOTE: NAMCS codes were entered without decimal points.

VARIABLE DE15505 FFS COMP FILE 06

2nd reason/symptom for visit

CODES

Blank - Not applicable, missing

DE15505 indicates the code for an additional reason the participant went to see a physician. All reason-for-visit codes used in the claims line-item files are listed in Section IV of "Codes Used."

NOTE: See note on DE15503.

VARIABLE DE15565 FFS COMP FILE 06

3rd reason/symptom for visit

CODES

Blank - Not applicable, missing

DE15565 indicates the code for an additional reason the participant went to see a physician. All reason-for-visit codes used in the claims line-item files are listed in Section IV of "Codes Used."

NOTE: See note on DE15503.

VARIABLE DEI5568 FFS COMP FILE 06

Provider referred from

CODES

Blank - Not applicable, missing

DEI5568 indicates the provider number of the person or institution (if any) who referred the participant. For further information on the provider, this number can be linked to information in the provider file of the HIE reference series.

VARIABLE DEI5569 FFS COMP FILE 06

First provider referral

CODES

Blank - Not applicable, missing

DEI5569 indicates the provider number of the first provider (if any) to whom the participant was referred. For further information on the provider, this number can be linked to information in the provider file of the HIE reference series.

VARIABLE DEI5570 FFS COMP FILE 06

Second provider referral

CODES

Blank - Not applicable, missing

DEI5570 indicates the provider number of the second provider (if any) to whom the participant was referred. For further information on the provider, this number can be linked to information in the provider file of the HIE reference series.

VARIABLE DEI5571 FFS COMP FILE 06

Third provider referral

CODES

Blank - Not applicable, missing

DEI5571 indicates the provider number of the third provider (if any) to whom the participant was referred. For further information on the provider, this number can be linked to information in the provider file of the HIE reference series.

VARIABLE DEI5511 FFS COMP FILE 06

Accident-related

CODES

. - Not applicable, missing
1 - Yes
2 - No

DEI5511 states whether the illness or injury was accident-related.

DEI5511

VALUE	FREQ	CUM FREQ	%	CUM %
.	545	.	.	.
1	4455	4455	8.43	8.43
2	48381	52836	91.57	100.00

VARIABLE DEI5512 FFS COMP FILE 06

Employment-related

CODES

. - Not applicable, missing
1 - Yes
2 - No

DEI5512 states whether the illness or injury was employment-related.

DEI5512

VALUE	FREQ	CUM FREQ	%	CUM %
.	532	.	.	.
1	875	875	1.66	1.66
2	51974	52849	98.34	100.00

VARIABLE DE15566 FFS COMP FILE 06

Date of injury

CODES

. - Not applicable, missing
19520801 to 19810727 - Range on this file (YYYYMMDD)

DE15566 indicates the date (if any) the participant was injured.

VARIABLE DE15606 FFS COMP FILE 06

CRVS code

CODES

. - Not applicable, missing

DE15606 indicates a five-digit California Relative Value Studies (CRVS) code identifying the service provided by the physician; the imputed covered charge for this service is found in IMPCHRG. CRVS codes used in the HIE claims files are defined in Section II of "Codes Used." A small number of codes were added under the direction of a Rand HIE physician to describe services not adequately reflected by any existing CRVS code. Those codes are also defined in the supplementary volume.

VARIABLE DEI5607 FFS COMP FILE 06

First CRVS modifier

CODES

. - Not applicable, missing

DEI5607 indicates the code for a special circumstance involved in the CRVS procedure shown in DEI5606, CRVS Code.

DEI5607

VALUE	FREQ	CUM FREQ	%	CUM %
.	50414	.	.	.
1	943	943	31.78	31.78
22	17	960	0.57	32.36
24	2	962	0.07	32.42
26	753	1715	25.38	57.80
27	126	1841	4.25	62.05
28	4	1845	0.14	62.18
29	13	1858	0.44	62.62
30	305	2163	10.28	72.90
47	1	2164	0.03	72.94
48	1	2165	0.03	72.97
50	22	2187	0.74	73.71
51	10	2197	0.34	74.05
52	26	2223	0.88	74.92
54	1	2224	0.03	74.96
55	6	2230	0.20	75.16
58	442	2672	14.90	90.06
76	1	2673	0.03	90.09
80	96	2769	3.24	93.33
90	198	2967	6.67	100.00

VARIABLE DEI5608 FFS COMP FILE 06

Second CRVS modifier

CODES

. - Not applicable, missing

DEI5608 indicates the code for a second special circumstance involved in the CRVS procedure shown in DEI5606, CRVS Code.

DEI5608

VALUE	FREQ	CUM FREQ	%	CUM %
.	53368	.	.	.
26	1	1	7.69	7.69
50	2	3	15.39	23.08
53	1	4	7.69	30.77
58	3	7	23.08	53.85
80	2	9	15.39	69.23
90	4	13	30.77	100.00

VARIABLE CRVSUNIT — FFS COMP FILE 06

Covered CRVS units

CODES

. - Not applicable, missing

CRVSUNIT is the covered portion of the unit value of the procedure in DE15606, as given in the 1974 revision of the CRVS published in 1975. CRVSUNIT is expressed in units and equals zero if none of the charge associated with the procedure was covered by the HIE.

CRVSUNIT

NUMBER OF OBSERVATIONS	52849
NUMBER OF MISSING	532
MEAN	7.81
MEDIAN	6.00
MINIMUM VALUE	0.00
MAXIMUM VALUE	350.00
STANDARD DEVIATION	7.47
COEFFICIENT OF VARIATION	95.67
SKEWNESS	7.20
KURTOSIS	204.81

VARIABLE IMPCHRG — FFS COMP FILE 06

Imputed line-item charge

IMPCHRG indicates the imputed covered charge calculated by HIE analysts for the CRVS procedure defined in DE15606, CRVS code. The imputed charge was based on the date of service, the covered CRVS units for the service (CRVSUNIT), and a dollar amount per CRVS unit taken from conversion tables. Imputed charges are expressed in actual dollars for the year services were rendered, unadjusted for inflation, and represent charges for services covered in the HIE contract.

IMPCHRG

NUMBER OF OBSERVATIONS	53381
NUMBER OF MISSING	0
MEAN	29.30
MEDIAN	19.20
MINIMUM VALUE	0.00
MAXIMUM VALUE	3976.70
STANDARD DEVIATION	66.07
COEFFICIENT OF VARIATION	225.53
SKEWNESS	22.02
KURTOSIS	832.21

VARIABLE DE15560 FFS COMP FILE 06

Reason for noncoverage

CODES

. - Not applicable, missing
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 fifty-two 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 the 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 $25.00
20 - Not medically necessary
21 - Duplicate line item
22 - Amount paid on another Explanation of Benefits
23 - Service prior to 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

(cont.)

DE15560

VALUE	FREQ	CUM FREQ	%	CUM %
.	35471	.	.	.
4	2	2	0.01	0.01
5	298	300	1.66	1.68
6	1	301	0.01	1.68
8	9	310	0.05	1.73
11	19	329	0.11	1.84
16	1	330	0.01	1.84
17	1	331	0.01	1.85
20	10	341	0.06	1.90
21	34	375	0.19	2.09
22	82	457	0.46	2.55
25	204	661	1.14	3.69
28	5	666	0.03	3.72
30	1	667	0.01	3.72
31	11470	12137	64.04	67.77
32	472	12609	2.64	70.40
33	10	12619	0.06	70.46
35	195	12814	1.09	71.55
37	78	12892	0.44	71.98
40	2	12894	0.01	71.99
41	22	12916	0.12	72.12
42	96	13012	0.54	72.65
43	22	13034	0.12	72.78
44	981	14015	5.48	78.25
45	916	14931	5.11	83.37
46	4	14935	0.02	83.39
55	5	14940	0.03	83.42
56	673	15613	3.76	87.18
57	1	15614	0.01	87.18
58	22	15636	0.12	87.30
59	27	15663	0.15	87.45
60	19	15682	0.11	87.56
62	5	15687	0.03	87.59
63	6	15693	0.03	87.62
66	2091	17784	11.68	99.30
71	7	17791	0.04	99.34
73	19	17810	0.11	99.44
74	99	17909	0.55	99.99
99	1	17910	0.01	100.00

VARIABLE DE15560 (cont.)

28 - Blood credit
29 - Over-the-counter drugs
30 - Deductible not met
31 - Participant's coinsurance portion
32 - Services covered by workmen's compensation or employer's liability laws
33 - Pass through (covered by other insurance; payment from other company was "passed through" to provider or participant)
34 - Payment made
35 - Services covered by accident insurance policies
36 - Medicare paid
37 - Discount
38 - Not covered prepayment and deductible
39 - Not covered prepayment and coinsurance
40 - Discount and deductible not met
41 - Discount and coinsurance
42 - Paid by other insurance carrier
43 - Paid by agency other than insurance company
44 - Services obtained outside Group Health Cooperative
45 - Plan benefit is 5% of covered charges
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% or 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 - Workmen's compensation - charge coded as one cent, but true charge unknown
59 - Services rendered after termination date
60 - Claim in duplicate
61 - Participant not eligible
62 - Suspended
63 - No service
64 - Before enrollment date (SAME AS 23)
65 - Claim filed after time limit
66 - No charge

(cont.)

VARIABLE DEI5560 (cont.)

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
72 - Prepayment made (SAME AS 34)
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

DEI5560 describes the reason a service was not covered under the participant's HIE plan. The above code values were designed to cover all line-item records; not all values are appropriate in every file.

NOTE: Code value 99 appears in the frequencies but is not a true code value and is believed to be a result of data entry errors.

VARIABLE DEI5596 FFS COMP FILE 06

1st diagnosis related?

CODES

. - Not applicable, missing
1 - Yes
2 - No

DEI5596 indicates whether the service rendered by the provider was medically related to the first diagnosis or problem.

DEI5596

VALUE	FREQ	CUM FREQ	%	CUM %
.	46	.	.	.
1	51334	51334	96.25	96.25
2	2001	53335	3.75	100.00

VARIABLE DE15522 FFS COMP FILE 06

1st diagnosis

CODES

Blank - Not applicable, missing

DE15522 indicates the code of the first condition diagnosed by the physician. Codes were assigned in the order in which the diagnoses appeared on the claim. Diagnosis codes used in the HIE claims files are listed in Section I of "Codes Used."

VARIABLE DE15523 FFS COMP FILE 06

1st diagnosis qualifier

CODES

. - Not applicable, missing
1 - No qualifier given
2 - Rule out
3 - Probable/possible/?/question of
4 - With, associated with, complicated by, secondary to, due to
5 - Not, turned out not to be, was not
6 - Or, versus
9 - Well-care code assigned*

DE15523 indicates a diagnosis qualifier for the first diagnosis. In some instances (i.e., codes 2, 3, 5), it is possible a diagnosis qualifier was used in the absence of a primary diagnosis.

*NOTE: Value #9 is not a true diagnosis qualifier. Occasionally, health maintenance procedures were performed by the provider which did not pertain to any of the diagnoses on the MER. In such cases, coders assigned a well-care code from the H-ICDA-2, and it was notated in this variable.

DE15523

VALUE	FREQ	CUM FREQ	%	CUM %
.	5898	.	.	.
1	41308	41308	87.00	87.00
2	639	41947	1.35	88.34
3	493	42440	1.04	89.38
4	4907	47347	10.33	99.71
5	1	47348	0.00	99.72
6	21	47369	0.04	99.76
9	114	47483	0.24	100.00

VARIABLE DEI5524 FFS COMP FILE 06

1st associated diagnosis

CODES

Blank - Not applicable, missing

DEI5524 indicates the associated diagnosis code when required by the diagnosis qualifier.

VARIABLE DEI5572 FFS COMP FILE 06

1st problem/symptom date

CODES

.	- Not applicable, missing
19010101	- Symptom present most of life
19390101 to 19810729	- Range on this file (YYYYMMDD)

DEI5572 indicates the date that the first problem or symptom appeared, as reported by the participant. The value 19010101 was used when the participant responded that the symptom had been present most or all of his/her life.

VARIABLE DE15574 FFS COMP FILE 06

Treatment history/status of the 1st diagnosis

CODES

. - Not applicable, missing
1 - Initial visit for acute condition
2 - Initial visit for chronic condition
3 - Repeat visit for acute condition
4 - Repeat visit for chronic condition (routine)
5 - Initial visit for flareup of a chronic condition
6 - Well-care or pregnancy-related
7 - Repeat visit for flareup of a chronic condition
8 - Acute; not specified as initial or repeat
9 - Chronic; not specified as initial or repeat

DE15574 describes the patient's treatment status for the first diagnosis/problem.

DE15574

VALUE	FREQ	CUM FREQ	%	CUM %
.	9446	.	.	.
1	12426	12426	28.28	28.28
2	1667	14093	3.79	32.08
3	7510	21603	17.09	49.17
4	11575	33178	26.35	75.52
5	1584	34762	3.61	79.12
6	5414	40176	12.32	91.44
7	2466	42642	5.61	97.06
8	925	43567	2.11	99.16
9	368	43935	0.84	100.00

VARIABLE DE15597 FFS COMP FILE 06

2nd diagnosis related?

CODES

. - Not applicable, missing
1 - Yes
2 - No

DE15597 indicates whether the service rendered by the provider was medically related to the second diagnosis or problem.

DE15597

VALUE	FREQ	CUM FREQ	%	CUM %
.	37003	.	.	.
1	12044	12044	73.54	73.54
2	4334	16378	26.46	100.00

VARIABLE DEI5525 FFS COMP FILE 06

2nd diagnosis

CODES

Blank - Not applicable, missing

DEI5525 indicates the code of the second condition diagnosed by the physician. Codes were assigned in the order in which the diagnoses appeared on the claim. Diagnosis codes used in the HIE claims files are listed in Section I of "Codes Used."

VARIABLE DEI5526 FFS COMP FILE 06

2nd diagnosis qualifier

CODES

. - Not applicable, missing
1 - No qualifier given
2 - Rule out
3 - Probable/possible/?/question of
4 - With, associated with, complicated by, secondary to, due to
5 - Not, turned out not to be, was not
6 - Or, versus
9 - Well-care code assigned*

DEI5526 indicates a diagnosis qualifier for the second diagnosis. In some instances (i.e., codes 2, 3, 5), it is possible a diagnosis qualifier was used in the absence of a primary diagnosis.

*NOTE: See note on DEI5523.

DEI5526

VALUE	FREQ	CUM FREQ	%	CUM %
.	37019	.	.	.
1	13274	13274	81.13	81.13
2	534	13808	3.26	84.39
3	266	14074	1.63	86.02
4	1941	16015	11.86	97.88
5	4	16019	0.02	97.90
6	11	16030	0.07	97.97
9	332	16362	2.03	100.00

VARIABLE DEI5527 FFS COMP FILE 06

2nd associated diagnosis

CODES

Blank - Not applicable, missing

DEI5527 indicates the associated diagnosis code when required by the qualifier.

VARIABLE DEI5575 FFS COMP FILE 06

2nd problem/symptom date

CODES

.	- Not applicable, missing
19010101	- Symptom present most of life
19280101 to 19810725	- Range on this file (YYYYMMDD)

DEI5575 indicates the date that the second problem or symptom appeared, as reported by the participant. The value 19010101 was used when the participant responded that the symptom had been present most or all of his/her life.

VARIABLE DE15577 FFS COMP FILE 06

Treatment history/status of the 2nd diagnosis

CODES

. - Not applicable, missing
1 - Initial visit for acute condition
2 - Initial visit for chronic condition
3 - Repeat visit for acute condition
4 - Repeat visit for chronic condition (routine)
5 - Initial visit for flareup of a chronic condition
6 - Well-care or pregnancy-related
7 - Repeat visit for flareup of a chronic condition
8 - Acute; not specified as initial or repeat
9 - Chronic; not specified as initial or repeat

DE15577 describes the patient's treatment status for the second diagnosis/problem.

DE15577

VALUE	FREQ	CUM FREQ	%	CUM %
.	38283	.	.	.
1	3918	3918	25.95	25.95
2	724	4642	4.80	30.75
3	2409	7051	15.96	46.70
4	4623	11674	30.62	77.32
5	678	12352	4.49	81.81
6	1111	13463	7.36	89.17
7	911	14374	6.03	95.21
8	503	14877	3.33	98.54
9	221	15098	1.46	100.00

VARIABLE DE15598 FFS COMP FILE 06

3rd diagnosis related?

CODES

. - Not applicable, missing
1 - Yes
2 - No

DE15598 indicates whether the service rendered by the provider was medically related to the third diagnosis/problem.

DE15598

VALUE	FREQ	CUM FREQ	%	CUM %
.	47230	.	.	.
1	4332	4332	70.43	70.43
2	1819	6151	29.57	100.00

VARIABLE DEI5528 FFS COMP FILE 06

3rd diagnosis

CODES

Blank - Not applicable, missing

DEI5528 indicates the code of the third condition diagnosed by the physician. Codes were assigned in the order in which the diagnoses appeared on the claim. Diagnosis codes used in the HIE claims files are listed in Section I of "Codes Used."

VARIABLE DEI5529 FFS COMP FILE 06

3rd diagnosis qualifier

CODES

. - Not applicable, missing
1 - No qualifier
2 - Rule out
3 - Probable/possible/?/question of
4 - With, associated with, complicated by, secondary to, due to
5 - Not, turned out not to be, was not
6 - Or, versus
9 - Well-care code assigned*

DEI5529 indicates a diagnosis qualifier for the third diagnosis. In some instances (i.e., codes 2, 3, 5), it is possible a diagnosis qualifier was used in the the absence of a primary diagnosis.

*NOTE: See note on DEI5523.

DEI5529

VALUE	FREQ	CUM FREQ	%	CUM %
.	47219	.	.	.
1	4768	4768	77.38	77.38
2	210	4978	3.41	80.79
3	157	5135	2.55	83.33
4	887	6022	14.40	97.73
9	140	6162	2.27	100.00

VARIABLE DEI5530 FFS COMP FILE 06

3rd associated diagnosis

CODES

Blank - Not applicable, missing

DEI5530 indicates the associated diagnosis code when required by the qualifier.

VARIABLE DEI5578 FFS COMP FILE 06

3rd problem/symptom date

CODES

.	- Not applicable, missing
19010101	- Symptom present most of life
19390101 to 19810707	- Range on this file (YYYYMMDD)

DEI5578 indicates the date that the third problem or symptom appeared, as reported by the participant. The value 19010101 was used when the participant responded that the symptom had been present most or all of his/her life.

VARIABLE DEI5580 FFS COMP FILE 06

Treatment history/status of the 3rd diagnosis

CODES

. - Not applicable, missing
1 - Initial visit for acute condition
2 - Initial visit for chronic condition
3 - Repeat visit for acute condition
4 - Repeat visit for chronic condition (routine)
5 - Initial visit for flareup of a chronic condition
6 - Well-care or pregnancy-related
7 - Repeat visit for flareup of a chronic condition
8 - Acute; not specified as initial or repeat
9 - Chronic; not specified as initial or repeat

DEI5580 describes the patient's treatment status for the third diagnosis/problem.

DEI5580

VALUE	FREQ	CUM FREQ	%	CUM %
.	47745	.	.	.
1	1305	1305	23.16	23.16
2	388	1693	6.88	30.04
3	1013	2706	17.97	48.01
4	1710	4416	30.34	78.35
5	213	4629	3.78	82.13
6	300	4929	5.32	87.46
7	378	5307	6.71	94.16
8	261	5568	4.63	98.79
9	68	5636	1.21	100.00

VARIABLE DEI5599 FFS COMP FILE 06

4th diagnosis related?

CODES

. - Not applicable, missing
1 - Yes
2 - No

DEI5599 indicates whether the service rendered by the provider was medically related to the fourth diagnosis/problem.

DEI5599

VALUE	FREQ	CUM FREQ	%	CUM %
.	50588	.	.	.
1	1829	1829	65.49	65.49
2	964	2793	34.52	100.00

VARIABLE DEI5531 FFS COMP FILE 06

4th diagnosis

CODES

Blank - Not applicable, missing

DEI5531 indicates the code of the fourth condition diagnosed by the physician. Codes were assigned in the order in which the diagnoses appeared on the claim. Diagnosis codes used in the HIE claims files are listed in Section I of "Codes Used."

VARIABLE DEI5532 FFS COMP FILE 06

4th diagnosis qualifier

CODES

. - Not applicable, missing
1 - Yes
1 - No qualifier given
2 - Rule out
3 - Probable/possible/?/question of
4 - With, associated with, complicated by, secondary to, due to
5 - Not, turned out not to be, was not
6 - Or, versus
9 - Well-care code assigned*

DEI5532 indicates a diagnosis qualifier for the fourth diagnosis. In some instances (i.e., codes 2, 3, 5), it is possible for a diagnosis qualifier to be used in the absence of a primary diagnosis.

*NOTE: See note on DEI5523.

DEI5532

VALUE	FREQ	CUM FREQ	%	CUM %
.	50575	.	.	.
1	1840	1840	65.57	65.57
2	154	1994	5.49	71.06
3	59	2053	2.10	73.17
4	519	2572	18.50	91.66
9	234	2806	8.34	100.00

VARIABLE DEI5533 FFS COMP FILE 06

4th associated diagnosis

CODES

Blank - Not applicable, missing

DEI5533 indicates the associated diagnosis code when required by the qualifier.

VARIABLE DEI5581 FFS COMP FILE 06

4th problem/symptom date

CODES

.	- Not applicable, missing
19010101	- Symptom present most of life
19570101 to 19810707	- Range on this file (YYYYMMDD)

DEI5581 indicates the date that the fourth problem or symptom appeared, as reported by the participant. The value 19010101 was used when the participant responded that the symptom had been present most or all of his/her life.

VARIABLE DEI5583 FFS COMP FILE 06

Treatment history/status of the 4th diagnosis

CODES

. - Not applicable, missing
1 - Initial visit for acute condition
2 - Initial visit for chronic condition
3 - Repeat visit for acute condition
4 - Repeat visit for chronic condition (routine)
5 - Initial visit for flareup of a chronic condition
6 - Well-care or pregnancy-related
7 - Repeat visit for flareup of a chronic condition
8 - Acute; not specified as initial or repeat
9 - Chronic; not specified as initial or repeat

DEI5583 describes the patient's treatment status for the fourth diagnosis/problem.

DEI5583

VALUE	FREQ	CUM FREQ	%	CUM %
.	50777	.	.	.
1	534	534	20.51	20.51
2	152	686	5.84	26.34
3	501	1187	19.24	45.58
4	671	1858	25.77	71.35
5	155	2013	5.95	77.30
6	319	2332	12.25	89.56
7	104	2436	3.99	93.55
8	139	2575	5.34	98.89
9	29	2604	1.11	100.00

VI. INJECTIONS ADMINISTERED BY PHYSICIANS SEATTLE FFS COMPARISON FILE 10

INTRODUCTION

The following codebook documents primary variables concerning injections administered to Seattle participants by independent FFS physicians and other health professionals. The majority of services listed in this file were provided to Seattle FFS participants but also included are some FFS health services that were rendered to HMO participants, as discussed in Sec. II. A few injections may also be found in File 06, recorded as a CRVS physician procedure (e.g., 90030, "Minimal physician service") because the physician reported them in that manner.

Specific information provided in this file includes the drug(s) injected by the physician and the *imputed charge* for each injection or group of injections. Some injections, such as allergy shots or steroid injections, were sometimes given in groups during the same visit and thus were included in one lump-sum billing. Also included are the reasons/symptoms for the visit to the physician, whether the visit was accident- or employment-related, the date and place of service, and the referral physicians (if any). Further information provided includes variables indicating the diagnoses to which the injection is related and the treatment history/status of each diagnosis.

The units of observation in this file are line items representing injections given.[1] For an explanation of common file variables used in this codebook, see the final subsection of Sec. II. Below we provide explanations for certain variables specific to this file.

---

[1]Analysts should note that the statistical frequency of a variable in this file represents the number of times it occurs in relation to the unit of observation, *not* the number of claims on which it appears.

NDC CODE

DEI5589 indicates the first seven digits of the National Drug Code[2] that identifies the drug injected by the provider. Occasionally, two drugs were contained in the same injection or two different injections were part of a single charge. A second set of drug variables is provided to identify and classify any second drug, if necessary. DEI5613 contains the NDC code of the second drug. A number of codes were added by the HIE to identify drugs not listed in the 1972 NDC Directory. All NDC and supplementary codes used here are defined in Sec. V of *Codes Used.*

NUMBER OF INJECTIONS

DEI5602, Number of Injections, indicates the number of injections of the same or closely related drug injected during one visit for one charge. Two situations account for nearly all cases of multiple units of service: (1) The injection was a series of multiple allergens (e.g., dust, mold, weed) or (2) it was a steroid injected into several body points. Although units of service higher than five are possible, any such entries connected to allergies most likely represent diagnostic allergy tests incorrectly recorded as injections; such entries may also be similarly miscoded in File 06, Physician Services, as allergy shots.

GENERIC CODES

DEI5590 - DEI5594 indicate codes that identify up to five generic components of the first injected drug. DEI5614 - DEI5618 indicate codes that identify up to five generic components of the second injected drug (if any). This generic coding system was developed by the HIE; code definitions are found in Sec. VI of *Codes Used.*

---

[2]*National Drug Code Directory*, Public Health Service, U.S. Department of Health and Human Services, Washington, D.C., June 1972.

DRUG THERAPEUTIC CODE

DEI5595 indicates a code identifying the therapeutic use category of the first injected drug. DEI5619 indicates a code for the therapeutic use category of the second injected drug (if any). Codes were taken from the American Medical Association's *AMA Drug Evaluations, 1973,*[3] by creating a code number that represents the chapter number of the drug's therapeutic category. Therapeutic codes are defined in Sec. VII of *Codes Used*.

DIAGNOSIS RELATION TO INJECTION

Each drug injection recorded in the line items is related to one or more of the four possible diagnoses by "diagnosis relation" variables DEI5596 - DEI5599.

---

[3]Second edition, Publishing Sciences Group, Inc., Acton, MA.

CODEBOOK FOR SEATTLE FFS COMPARISON FILE 10

INJECTIONS ADMINISTERED BY PHYSICIANS

DIRECTORY OF VARIABLES
SEATTLE FFS COMPARISON FILE 10

INJECTIONS ADMINISTERED BY PHYSICIANS

VARIABLE FILENAME FFS COMP FILE 10

Name of file

FILENAME is a 6-digit code that uniquely identifies the file. This file name is DE102A.

FILENAME

VALUE	FREQ	CUM FREQ	%	CUM %
DE102A	3329	3329	100.00	100.00

VARIABLE PERSON FFS COMP FILE 10

Person identifier

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

VARIABLE SITE FFS COMP FILE 10

Site

CODES

2 - Seattle, Washington

SITE identifies the participant's place of residence when the participant enrolled. All fee-for-service records for comparison to HMO records come from Seattle.

SITE

VALUE	FREQ	CUM FREQ	%	CUM %
2	3329	3329	100.00	100.00

VARIABLE INSTAT — FFS COMP FILE 10

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

VALUE	FREQ	CUM FREQ	%	CUM %
1	3302	3302	99.19	99.19
2	27	3329	0.81	100.00

VARIABLE CONTYR — FFS COMP FILE 10

Contract year

CODES

01 - First year
02 - Second year
03 - Third year
04 - Fourth year
05 - Fifth year

CONTYR identifies the participant's contract year of coverage for which the claim was filed under the HIE.

CONTYR

VALUE	FREQ	CUM FREQ	%	CUM %
01	920	920	27.64	27.64
02	1063	1983	31.93	59.57
03	895	2878	26.89	86.45
04	206	3084	6.19	92.64
05	245	3329	7.36	100.00

VARIABLE DEI5553 FFS COMP FILE 03

Claim number

DEI5553 indicates a claim identifier which is used to link the line items from a given MER.

VARIABLE DEI5502 FFS COMP FILE 10

Provider number

DEI5502 is an 8-character code which refers, in this file, to the physician who injected the participant. For further information concerning the provider, this number can be linked to information in the provider files of the HIE reference series.

VARIABLE DEI5555 FFS COMP FILE 10

Date of service

CODES

19741104 to 19820129 - Range of dates on file (YYYYMMDD)

DEI5555 indicates the date on which the service was rendered. If a service was rendered over multiple dates, this variable is the initial date of service.

VARIABLE DEI5584 FFS COMP FILE 10

Place of service

CODES

1 - Doctor's office
2 - Independent laboratory
3 - Patient's home
4 - Hospital
5 - Nursing home
6 - Emergency room (when not admitting)
7 - Outpatient surgery
8 - Other outpatient hospital, including hospital clinic
9 - Other locations, including non-hospital clinics

DEI5584 indicates the place the participant received medical services.

DEI5584

VALUE	FREQ	CUM FREQ	%	CUM %
1	3131	3131	94.05	94.05
4	6	3137	0.18	94.23
6	85	3222	2.55	96.79
7	3	3225	0.09	96.88
8	70	3295	2.10	98.98
9	34	3329	1.02	100.00

VARIABLE DEI5503 FFS COMP FILE 10

1st reason/symptom for visit

CODES

Blank - Not applicable, missing

DEI5503 indicates the code for the first reason the participant went to see a physician. All reason-for-visit codes used in the claims line-item files are listed in Section IV of "Codes Used."

NOTE: NAMCS codes were entered without decimal points.

VARIABLE DE15505 FFS COMP FILE 10

2nd reason/symptom for visit

CODES

Blank - Not applicable, missing

DE15505 indicates the code for an additional reason the participant went to see the doctor. All reason-for-visit codes used in the claims line-item files are listed in Section IV of "Codes Used."

NOTE: See note on DE15503.

VARIABLE DE15565 FFS COMP FILE 10

3rd reason/symptom for visit

CODES

Blank - Not applicable, missing

DE15565 indicates the code for an additional reason the participant went to see the doctor. All reason-for-visit codes used in the claims line-item files are listed in Section IV of "Codes Used."

NOTE: See note on DE15503.

VARIABLE DEI5568 FFS COMP FILE 10

Provider referred from

CODES

Blank - Not applicable, missing

DEI5568 indicates the provider number of the person or institution (if any) who referred the participant. For further information on the provider, this number can be linked to information in the provider file of the HIE reference series.

VARIABLE DEI5569 FFS COMP FILE 10

First provider referral

CODES

Blank - Not applicable, missing

DEI5569 indicates the provider number of the first provider (if any) to whom the participant was referred. For further information on the provider, this number can be linked to information in the provider file of the HIE reference series.

VARIABLE DEI5570 FFS COMP FILE 10

Second provider referral

CODES

Blank - Not applicable, missing

DEI5570 indicates the provider number of the second provider (if any) to whom the participant was referred. For further information on the provider, this number can be linked to information in the provider file of the HIE reference series.

VARIABLE DEI5571 FFS COMP FILE 10

Third provider referral

CODES

Blank - Not applicable, missing

DEI5571 indicates the provider number of the third provider (if any) to whom the participant was referred. For further information on the provider, this number can be linked to information in the provider file of the HIE reference series.

VARIABLE DEI5511 FFS COMP FILE 10

Accident-related

CODES

. - Not applicable, missing
1 - Yes
2 - No

DEI5511 states whether the illness or injury was accident-related.

DEI5511

VALUE	FREQ	CUM FREQ	%	CUM %
.	4	.	.	.
1	135	135	4.06	4.06
2	3190	3325	95.94	100.00

VARIABLE DEI5512 FFS COMP FILE 10

Employment-related

CODES

. - Not applicable, missing
1 - Yes
2 - No

DEI5512 states whether the illness or injury was employment-related.

DEI5512

VALUE	FREQ	CUM FREQ	%	CUM %
.	3	.	.	.
1	29	29	0.87	0.87
2	3297	3326	99.13	100.00

VARIABLE DE15566 FFS COMP FILE 10

Date of injury

CODES

. - Not applicable, missing
19710401 to 19810613 - Range of dates on file (YYYYMMDD)

DE15566 indicates the date (if any) the participant was injured.

VARIABLE DE15606 FFS COMP FILE 10

CRVS code

DE15606 indicates a five-digit California Relative Value Studies (CRVS) code identifying the service provided by the physician; the imputed covered charge for this service is found in IMPCHRG. CRVS codes used in the HIE claims files are defined in Section II of "Codes Used." A small number of codes were added under the direction of a Rand HIE physician to describe services not adequately reflected by any existing CRVS code. Those codes are also defined in the supplementary volume.

VARIABLE DEI5607 FFS COMP FILE 10

First CRVS modifier

CODES

. - Not applicable, missing

DEI5607 indicates the code for a special circumstance in the CRVS procedure shown in DEI5606, CRVS Code.

DEI5607

VALUE	FREQ	CUM FREQ	%	CUM %
.	3286	.	.	.
1	1	1	2.33	2.33
50	1	2	2.33	4.65
58	41	43	95.35	100.00

VARIABLE CRVSUNIT FFS COMP FILE 10

Covered CRVS units

CRVSUNIT is the covered portion of the unit value of the procedure in DEI5606, as given in the 1974 revision of the CRVS published in 1975. CRVSUNIT is expressed in units and equals zero if none of the charge associated with the procedure was covered by the HIE.

CRVSUNIT

NUMBER OF OBSERVATIONS	3306
NUMBER OF MISSING	23
MEAN	2.19
MEDIAN	2.20
MINIMUM VALUE	0.00
MAXIMUM VALUE	8.70
STANDARD DEVIATION	0.93
COEFFICIENT OF VARIATION	42.65
SKEWNESS	1.08
KURTOSIS	7.97

VARIABLE IMPCHRG FFS COMP FILE 10

Imputed line-item charge

IMPCHRG indicates the imputed covered charge calculated by HIE analysts for the CRVS procedure defined in DE15606, CRVS code. The imputed charge was based on the date of service, the covered CRVS units for the service (CRVSUNIT), and a dollar amount per CRVS unit taken from conversion tables. Imputed charges are expressed in actual dollars for the year services were rendered, unadjusted for inflation, and represent charges for services covered in the HIE contract.

IMPCHRG

NUMBER OF OBSERVATIONS	3329
NUMBER OF MISSING	0
MEAN	8.77
MEDIAN	8.16
MINIMUM VALUE	0.00
MAXIMUM VALUE	108.00
STANDARD DEVIATION	4.93
COEFFICIENT OF VARIATION	56.24
SKEWNESS	5.14
KURTOSIS	69.43

VARIABLE DEI5560 FFS COMP FILE 10

Reason for noncoverage

CODES

. - Not applicable, missing
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 fifty-two 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 the 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 $25.00
20 - Not medically necessary
21 - Duplicate line item
22 - Amount paid on another Explanation of Benefits
23 - Service prior to 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

(cont.)

DEI5560

VALUE	FREQ	CUM FREQ	%	CUM %
.	2175	.	.	.
22	18	18	1.56	1.56
31	930	948	80.59	82.15
32	8	956	0.69	82.84
35	3	959	0.26	83.10
37	2	961	0.17	83.28
42	1	962	0.09	83.36
44	52	1014	4.51	87.87
45	29	1043	2.51	90.38
56	6	1049	0.52	90.90
58	2	1051	0.17	91.08
60	1	1052	0.09	91.16
66	97	1149	8.41	99.57
74	5	1154	0.43	100.00

VARIABLE DE15560 (cont.)

28 - Blood credit
29 - Over-the-counter drugs
30 - Deductible not met
31 - Participant's coinsurance portion
32 - Services covered by workmen's compensation or employer's liability laws
33 - Pass through (covered by other insurance; payment from other company was "passed through" to provider or participant)
34 - Payment made
35 - Services covered by accident insurance policies
36 - Medicare paid
37 - Discount
38 - Not covered prepayment and deductible
39 - Not covered prepayment and coinsurance
40 - Discount and deductible not met
41 - Discount and coinsurance
42 - Paid by other insurance carrier
43 - Paid by agency other than insurance company
44 - Services obtained outside Group Health Cooperative
45 - Plan benefit is 5% of covered charges
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% or 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 - Workmen's compensation - charge coded as one cent, but true charge unknown
59 - Services rendered after termination date
60 - Claim in duplicate
61 - Participant not eligible
62 - Suspended
63 - No service
64 - Before enrollment date (SAME AS 23)
65 - Claim filed after time limit
66 - No charge

(cont.)

VARIABLE DEI5560 (cont.)

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
72 - Prepayment made (SAME AS 34)
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

DEI5560 describes the reason a service was not covered under the participant's HIE plan. The above code values were designed to cover all line-item records; not all values are appropriate in every file.

VARIABLE DEI5596 FFS COMP FILE 10

1st diagnosis related?

CODES

. - Not applicable, missing
1 - Yes
2 - No

DEI5596 indicates whether the drug injected by the provider was medically related to the first diagnosis/ problem.

DEI5596

VALUE	FREQ	CUM FREQ	%	CUM %
.	15	.	.	.
1	2951	2951	89.05	89.05
2	363	3314	10.95	100.00

VARIABLE DEI5522 FFS COMP FILE 10

1st diagnosis

CODES

Blank - Not applicable, missing

DEI5522 indicates the code of the first condition diagnosed by the physician. Codes were assigned in the order in which the diagnoses appeared on the claim. Diagnosis codes used in the HIE claims file are listed in Section I of "Codes Used."

VARIABLE DEI5523 FFS COMP FILE 10

1st diagnosis qualifier

CODES

. - Not applicable, missing
1 - No qualifier given
2 - Rule out
3 - Probable/possible/?/question of
4 - With, associated with, complicated by, secondary to, due to
5 - Not, turned out not to be, was not
6 - Or, versus
9 - Well-care code assigned*

DEI5523 indicates a diagnosis qualifier for the first diagnosis. In some instances (i.e., codes 2, 3, 5), it is possible a diagnosis qualifier was used in the absence of a primary diagnosis.

*NOTE: Value #9 is not a true diagnosis qualifier. Occasionally, health maintenance procedures were performed by the provider which did not pertain to any of the diagnoses on the MER. In such cases, coders assigned a well-care code from the H-ICDA-2, and it was notated in this variable.

DEI5523

VALUE	FREQ	CUM FREQ	%	CUM %
.	20	.	.	.
1	3105	3105	93.84	93.84
2	16	3121	0.48	94.32
3	7	3128	0.21	94.53
4	150	3278	4.53	99.06
9	31	3309	0.94	100.00

VARIABLE DE15524 FFS COMP FILE 10

1st associated diagnosis

CODES

Blank - Not applicable, missing

DE15524 indicates the associated diagnosis code when required by the diagnosis qualifier.

VARIABLE DE15572 FFS COMP FILE 10

1st problem/symptom date

CODES

.	- Not applicable, missing
19010101	- Symptom present most of life
19650112 to 19810428	- Range on this file (YYYYMMDD)

DE15572 indicates the date that the first problem or symptom appeared, as reported by the participant. The value 19010101 was used when the participant responded that the symptom had been present most or all of his/her life.

VARIABLE DEI5574 FFS COMP FILE 10

Treatment history/status of the 1st diagnosis

CODES

. - Not applicable, missing
1 - Initial visit for acute condition
2 - Initial visit for chronic condition
3 - Repeat visit for acute condition
4 - Repeat visit for chronic condition (routine)
5 - Initial visit for flareup of a chronic condition
6 - Well-care or pregnancy-related
7 - Repeat visit for flareup of a chronic condition
8 - Acute; not specified as initial or repeat
9 - Chronic; not specified as initial or repeat

DEI5574 describes the patient's treatment status for the first diagnosis/problem.

DEI5574

VALUE	FREQ	CUM FREQ	%	CUM %
.	141	.	.	.
1	464	464	14.56	14.56
2	29	493	0.91	15.46
3	166	659	5.21	20.67
4	1696	2355	53.20	73.87
5	46	2401	1.44	75.31
6	677	3078	21.24	96.55
7	55	3133	1.73	98.28
8	37	3170	1.16	99.44
9	18	3188	0.57	100.00

VARIABLE DEI5597 FFS COMP FILE 10

2nd diagnosis related?

CODES

. - Not applicable, missing
1 - Yes
2 - No

DEI5597 indicates whether the drug injected by the provider was medically related to the second diagnosis/problem.

DEI5597

VALUE	FREQ	CUM FREQ	%	CUM %
.	2343	.	.	.
1	477	477	48.38	48.38
2	509	986	51.62	100.00

VARIABLE DEI5525 FFS COMP FILE 10

2nd diagnosis

CODES

Blank - Not applicable, missing

DEI5525 indicates the code of the second condition diagnosed by the physician. Codes were assigned in the order in which the diagnoses appeared on the claim. Diagnosis codes used in the HIE claims files are listed in Section I of "Codes Used."

VARIABLE DEI5526 FFS COMP FILE 10

2nd diagnosis qualifier

CODES

. - Not applicable, missing
1 - No qualifier given
2 - Rule out
3 - Probable/possible/?/question of
4 - With, associated with, complicated by, secondary to, due to
5 - Not, turned out not to be, was not
6 - Or, versus
9 - Well-care code assigned*

DEI5526 indicates a diagnosis qualifier for the second diagnosis. In some instances (i.e., codes 2, 3, 5), it is possible a diagnosis qualifier was used in the absence of a primary diagnosis.

*NOTE: See note on DEI5523.

DEI5526

VALUE	FREQ	CUM FREQ	%	CUM %
.	2333	.	.	.
1	812	812	81.53	81.53
2	20	832	2.01	83.53
3	16	848	1.61	85.14
4	64	912	6.43	91.57
9	84	996	8.43	100.00

VARIABLE DEI5527 FFS COMP FILE 10

2nd associated diagnosis

CODES

Blank - Not applicable, missing

DEI5527 indicates the associated diagnosis code when required by the qualifier.

VARIABLE DEI5575 FFS COMP FILE 10

2nd problem/symptom date

CODES

. - Not applicable, missing
19010101 - Symptom present most of life
19760101 to 19810320 - Range on this file (YYYYMMDD)

DEI5575 indicates the date that the second problem or symptom appeared, as reported by the participant. The value 19010101 was used when the participant responded that the symptom had been present most or all of his/her life.

VARIABLE DEI5577 FFS COMP FILE 10

Treatment history/status of the 2nd diagnosis

CODES

. - Not applicable, missing
1 - Initial visit for acute condition
2 - Initial visit for chronic condition
3 - Repeat visit for acute condition
4 - Repeat visit for chronic condition (routine)
5 - Initial visit for flareup of a chronic condition
6 - Well-care or pregnancy-related
7 - Repeat visit for flareup of a chronic condition
8 - Acute; not specified as initial or repeat
9 - Chronic; not specified as initial or repeat

DEI5577 describes the patient's status for the second diagnosis/problem.

DEI5577

VALUE	FREQ	CUM FREQ	%	CUM %
.	2387	.	.	.
1	185	185	19.64	19.64
2	18	203	1.91	21.55
3	52	255	5.52	27.07
4	345	600	36.62	63.69
5	17	617	1.81	65.50
6	278	895	29.51	95.01
7	23	918	2.44	97.45
8	18	936	1.91	99.36
9	6	942	0.64	100.00

VARIABLE DEI5598 FFS COMP FILE 10

3rd diagnosis related?

CODES

. - Not applicable, missing
1 - Yes
2 - No

DEI5598 indicates whether the drug injected by the provider was medically related to the third diagnosis/problem.

DEI5598

VALUE	FREQ	CUM FREQ	%	CUM %
.	3026	.	.	.
1	138	138	45.55	45.55
2	165	303	54.46	100.00

VARIABLE DEI5528 FFS COMP FILE 10

3rd diagnosis

CODES

Blank - Not applicable, missing

DEI5528 indicates the code of the third condition diagnosed by the physician. Codes were assigned in the order in which the diagnoses appeared on the claim. Diagnosis codes used in the HIE claims files are listed in Section I of "Codes Used."

VARIABLE DEI5529 FFS COMP FILE 10

3rd diagnosis qualifier

CODES

. - Not applicable, missing
1 - No qualifier
2 - Rule out
3 - Probable/possible/?/question of
4 - With, associated with, complicated by, secondary to, due to
5 - Not, turned out not to be, was not
6 - Or, versus
9 - Well-care code assigned*

DEI5529 indicates a diagnosis qualifier for the third diagnosis. In some instances (i.e., codes 2, 3, 5), it is possible a diagnosis qualifier was used in the absence of a primary diagnosis.

*NOTE: See note on DEI5523.

DEI5529

VALUE	FREQ	CUM FREQ	%	CUM %
.	3021	.	.	.
1	239	239	77.60	77.60
2	2	241	0.65	78.25
3	10	251	3.25	81.49
4	13	264	4.22	85.71
9	44	308	14.29	100.00

VARIABLE DEI5530 FFS COMP FILE 10

3rd associated diagnosis

CODES

Blank - Not applicable, missing

DEI5530 indicates the associated diagnosis code when required by the qualifier.

VARIABLE DEI5578 FFS COMP FILE 10

3rd problem/symptom date

CODES

. - Not applicable, missing
19010101 - Symptom present most of life
19760402 to 19810301 - Range on this file (YYYYMMDD)

DEI5578 indicates the date that the third problem or symptom appeared, as reported by the participant. The value 19010101 was used when the participant responded that the symptom had been present most or all of his/her life.

VARIABLE DE15580 FFS COMP FILE 10

Treatment history/status of the 3rd diagnosis

CODES

. - Not applicable, missing
1 - Initial visit for acute condition
2 - Initial visit for chronic condition
3 - Repeat visit for acute condition
4 - Repeat visit for chronic condition (routine)
5 - Initial visit for flareup of a chronic condition
6 - Well-care or pregnancy-related
7 - Repeat visit for flareup of a chronic condition
8 - Acute; not specified as initial or repeat
9 - Chronic; not specified as initial or repeat

DE15580 describes the patient's treatment history/ status for the third diagnosis/problem.

DE15580

VALUE	FREQ	CUM FREQ	%	CUM %
.	3046	.	.	.
1	37	37	13.07	13.07
2	8	45	2.83	15.90
3	16	61	5.65	21.56
4	89	150	31.45	53.00
5	3	153	1.06	54.06
6	118	271	41.70	95.76
7	6	277	2.12	97.88
8	4	281	1.41	99.29
9	2	283	0.71	100.00

VARIABLE DE15599 FFS COMP FILE 10

4th diagnosis related?

CODES

. - Not applicable, missing
1 - Yes
2 - No

DE15599 indicates whether the drug injected by the provider was medically related to the fourth diagnosis/ problem.

DE15599

VALUE	FREQ	CUM FREQ	%	CUM %
.	3228	.	.	.
1	49	49	48.52	48.52
2	52	101	51.49	100.00

VARIABLE DEI5531 FFS COMP FILE 10

4th diagnosis

CODES

Blank - Not applicable, missing

DEI5528 indicates the code of the third condition diagnosed by the physician. Codes were assigned in the order in which the diagnoses appeared on the claim. Diagnosis codes used in the HIE claims files are listed in Section I of "Codes Used."

VARIABLE DEI5532 FFS COMP FILE 10

4th diagnosis qualifier

CODES

. - Not applicable, missing
1 - No qualifier given
2 - Rule out
3 - Probable/possible/?/question of
4 - With, associated with, complicated by, secondary to, due to
5 - Not, turned out not to be, was not
6 - Or, versus
9 - Well-care code assigned*

DEI5532 indicates a diagnosis qualifier for the fourth diagnosis. In some instances (i.e., codes 2, 3, 5), it is possible for a diagnosis qualifier to be used in the absence of a primary diagnosis.

*NOTE: See note on DEI5523.

DEI5532

VALUE	FREQ	CUM FREQ	%	CUM %
.	3222	.	.	.
1	79	79	73.83	73.83
2	2	81	1.87	75.70
3	4	85	3.74	79.44
4	6	91	5.61	85.05
9	16	107	14.95	100.00

VARIABLE DEI5533 FFS COMP FILE 10

4th associated diagnosis

CODES

Blank - Not applicable, missing

DEI5533 indicates the associated diagnosis code when required by the qualifier.

VARIABLE DEI5581 FFS COMP FILE 10

4th problem/symptom date

CODES

. - Not applicable, missing
19760901 to 19800604 - Range on this file (YYYYMMDD)

DEI5581 indicates the date that the fourth problem or symptom appeared, as reported by the participant.

VARIABLE DEI5583 FFS COMP FILE 10

Treatment history/status of the 4th diagnosis

CODES

. - Not applicable, missing
1 - Initial visit for acute condition
2 - Initial visit for chronic condition
3 - Repeat visit for acute condition
4 - Repeat visit for chronic condition (routine)
5 - Initial visit for flareup of a chronic condition
6 - Well-care or pregnancy-related
7 - Repeat visit for flareup of a chronic condition
8 - Acute; not specified as initial or repeat
9 - Chronic; not specified as initial or repeat

DEI5583 describes the patient's treatment history/ status for the fourth diagnosis/problem.

DEI5583

VALUE	FREQ	CUM FREQ	%	CUM %
.	3229	.	.	.
1	17	17	17.00	17.00
2	2	19	2.00	19.00
3	9	28	9.00	28.00
4	35	63	35.00	63.00
5	3	66	3.00	66.00
6	34	100	34.00	100.00

VARIABLE DEI5666 FFS COMP FILE 10

Prescription status of first drug

CODES

. - Not applicable, missing
1 - Prescription (legend)
2 - Over the counter (non-legend)
3 - Either (varies by state)
4 - Unknown

DEI5666 states whether the drug listed in DEI5589 was prescription or could be sold over the counter, whether it required a prescription in some states but not in others, or whether information on the status of the drug was unobtainable.

DEI5666

VALUE	FREQ	CUM FREQ	%	CUM %
.	22	.	.	.
1	3104	3104	93.86	93.86
2	30	3134	0.91	94.77
3	170	3304	5.14	99.91
4	3	3307	0.09	100.00

VARIABLE DE15589 FFS COMP FILE 10

NDC code of first drug

CODES

Blank - Not applicable, missing

DE15589 indicates the first seven digits of the National Drug Code for the drug sold by the provider. A number of codes were added by the HIE to identify drugs not listed in the 1972 NDC Directory. All NDC and supplementary codes used here are defined in Section V of "Codes Used."

VARIABLE DE15590 FFS COMP FILE 10

1st generic code of first drug

CODES

. - Not applicable, missing

DE15590 identifies a generic component of the drug specified by NDC code in DE15589. Generic substances were identified using a coding system developed by the Health Insurance Experiment. Depending on the composition of the drug, from one to five generic components are specified for each drug. Generic codes are listed in Section VI of "Codes Used."

VARIABLE DEI5591 FFS COMP FILE 10

2nd generic code of first drug

CODES

. - Not applicable, missing

DEI5591 identifies a generic component of the drug specified by NDC code in DEI5589. Generic substances were identified using a coding system developed by the Health Insurance Experiment. Depending on the composition of the drug, from one to five generic components are specified for each drug. Generic codes are listed in Section VI of "Codes Used."

VARIABLE DEI5592 FFS COMP FILE 10

3rd generic code of first drug

CODES

. - Not applicable, missing

DEI5592 identifies a generic component of the drug specified by NDC code in DEI5589. Generic substances were identified using a coding system developed by the Health Insurance Experiment. Depending on the composition of the drug, from one to five generic components are specified for each drug. Generic codes are listed in Section VI of "Codes Used."

VARIABLE DEI5593 FFS COMP FILE 10

4th generic code of first drug

CODES

. - Not applicable, missing

DEI5593 identifies a generic component of the drug specified by NDC code in DEI5589. Generic substances were identified using a coding system developed by the Health Insurance Experiment. Depending on the composition of the drug, from one to five generic components are specified for each drug. Generic codes are listed in Section VI of "Codes Used."

VARIABLE DEI5594 FFS COMP FILE 10

5th generic code of first drug

CODES

. - Not applicable, missing

DEI5594 identifies a generic component of the drug specified by NDC code in DEI5589. Generic substances were identified using a coding system developed by the Health Insurance Experiment. Depending on the composition of the drug, from one to five generic components are specified for each drug. Generic codes are listed in Section VI of "Codes Used."

VARIABLE DEI5595 FFS COMP FILE 10

Drug therapeutic code of first drug

CODES

. - Not applicable, missing

DEI5595 indicates the code for the therapeutic use of the drug specified in DEI5589. Therapeutic codes used in this file are defined in Section VII of "Codes Used."

DEI5595

VALUE	FREQ	CUM FREQ	%	CUM %
.	18	.	.	.
2	1	1	0.03	0.03
3	1	2	0.03	0.06
5	1	3	0.03	0.09
7	4	7	0.12	0.21
8	85	92	2.57	2.78
9	1	93	0.03	2.81
11	1	94	0.03	2.84
12	2	96	0.06	2.90
14	199	295	6.01	8.91
16	11	306	0.33	9.24
17	22	328	0.66	9.91
18	40	368	1.21	11.11
20	5	373	0.15	11.27
21	25	398	0.76	12.02
24	4	402	0.12	12.14
25	1	403	0.03	12.17
26	5	408	0.15	12.32
27	4	412	0.12	12.44
28	1	413	0.03	12.47
30	5	418	0.15	12.63
31	1	419	0.03	12.66
33	11	430	0.33	12.99
35	183	613	5.53	18.51
36	33	646	1.00	19.51
37	94	740	2.84	22.35
38	8	748	0.24	22.59
41	46	794	1.39	23.98
42	2	796	0.06	24.04
45	1016	1812	30.69	54.73
46	1	1813	0.03	54.76
48	128	1941	3.87	58.62
49	5	1946	0.15	58.77
50	2	1948	0.06	58.83
51	17	1965	0.51	59.35
53	13	1978	0.39	59.74
57	9	1987	0.27	60.01
62	1	1988	0.03	60.04

(cont.)

VARIABLE DE15595 (cont.)

VALUE	FREQ	CUM FREQ	%	CUM %
70	1	1989	0.03	60.07
71	2	1991	0.06	60.13
78	3	1994	0.09	60.22
85	70	2064	2.11	62.34
88	229	2293	6.92	69.25
89	1015	3308	30.66	99.91
91	1	3309	0.03	99.94
92	2	3311	0.06	100.00

VARIABLE DE15665 FFS COMP FILE 10

Prescription status of second drug

CODES

. - Not applicable, missing
1 - Prescription (legend)
2 - Over the counter (non-legend)
3 - Either (varies by state)
4 - Unknown

DE15665 states whether the drug listed in DE15613 was prescription or could be sold over the counter, whether it required a prescription in some states but not in others, or whether information on the status of the drug was unobtainable.

DE15665

VALUE	FREQ	CUM FREQ	%	CUM %
.	3092	.	.	.
1	175	175	73.84	73.84
2	2	177	0.84	74.68
3	60	237	25.32	100.00

VARIABLE DE15613 FFS COMP FILE 10

NDC code of second drug

CODES

Blank - Not applicable, missing

DE15613 indicates the seven-digit National Drug Code for (a) a second drug injected separately but on the same charge as the drug in DE15589, or (b) a second drug contained in the same charged injection. A number of codes were added by the HIE to identify drugs not listed in the 1972 NDC Directory. All NDC and supplementary codes used here are defined in Section V of "Codes Used."

VARIABLE DE15614 FFS COMP FILE 10

1st generic code of second drug

CODES

. - Not applicable, missing

DE15614 identifies a generic component of the drug specified by NDC code in DE15613. Generic substances were identified using a coding system developed by the Health Insurance Experiment. Depending on the composition of the drug, from one to five generic components are specified for each drug. Generic codes are listed in Section VI of "Codes Used."

VARIABLE DE15615 FFS COMP FILE 10

2nd generic code of second drug

CODES

. - Not applicable, missing

DE15615 identifies a generic component of the drug specified by NDC code in DE15613. Generic substances were identified using a coding system developed by the Health Insurance Experiment. Depending on the composition of the drug, from one to five generic components are specified for each drug. Generic codes are listed in Section VI of "Codes Used."

VARIABLE DE15616 FFS COMP FILE 10

3rd generic code of second drug

CODES

. - Not applicable, missing

DE15616 identifies a generic component of the drug specified by NDC code in DE15613. Generic substances were identified using a coding system developed by the Health Insurance Experiment. Depending on the composition of the drug, from one to five generic components are specified for each drug. Generic codes are listed in Section VI of "Codes Used."

VARIABLE DEI5619 FFS COMP FILE 10

Drug therapeutic code of second drug

CODES

. - Not applicable, missing

DEI5619 indicates the code for the therapeutic use of the drug specified in DEI5613. Therapeutic codes in this file are defined in Section VII of "Codes Used."

DEI5619

VALUE	FREQ	CUM FREQ	%	CUM %
.	3091	.	.	.
2	1	1	0.42	0.42
5	1	2	0.42	0.84
8	41	43	17.23	18.07
14	58	101	24.37	42.44
17	2	103	0.84	43.28
18	25	128	10.50	53.78
28	2	130	0.84	54.62
29	4	134	1.68	56.30
30	1	135	0.42	56.72
31	4	139	1.68	58.40
35	14	153	5.88	64.29
36	4	157	1.68	65.97
37	11	168	4.62	70.59
38	1	169	0.42	71.01
41	3	172	1.26	72.27
42	1	173	0.42	72.69
45	5	178	2.10	74.79
48	2	180	0.84	75.63
78	1	181	0.42	76.05
85	21	202	8.82	84.87
88	16	218	6.72	91.60
89	20	238	8.40	100.00

VARIABLE DEI5602 FFS COMP FILE 10

Number of injections

CODES

. - Not applicable, missing

DEI5602 indicates the number of injections given for the imputed charge listed in IMPCHRG.

DEI5602

VALUE	FREQ	CUM FREQ	%	CUM %
.	1	.	.	.
1	3158	3158	94.89	94.89
2	162	3320	4.87	99.76
6	1	3321	0.03	99.79
7	2	3323	0.06	99.85
8	3	3326	0.09	99.94
10	1	3327	0.03	99.97
89	1	3328	0.03	100.00

Appendix A
PARTICIPATION INCENTIVE PAYMENTS

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

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

The total PI could not exceed the MDE specified in the family's HIE plan unless the family's share of its insurance premium exceeded the MDE. For example, if family X paid an insurance premium of $300, its

---

[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 questionnaire at exit.[5]

To measure enrollees' responsiveness to PI payments, a subset of families received their full annual PI in the next-to-last, as well as the last, year of their term. That "super PI bonus" was offered to 44.4 percent of the families assigned to insurance plans requiring 95 percent coinsurance, the highest rate (plans K-N, described on pp. 3-4). 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 Carl N. Morris, "A Finite Selection Model for Experimental Design of the Health Insurance Study," *Journal of Econometrics*, Vol. 11, 1979, pp. 43-61.

Appendix B
HIE DATA FILES

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

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

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

ISSUED TO DATE

Master Sample Series

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

MS2. *Vol. 2: Codebook for Full Sample Demographic File*, by S. M. Polich, N. F. Campbell, C. d'Arc Taylor, D. L. Wesley, J. W. Keesey, and E. S. Bloomfield, 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.)

AC2, AC3, AC4. *Vol. 2: Codebooks for Fee-for-Service Visits--Outpatient, Inpatient, and Dental*, by C. E. Peterson, M. Nelsen, D. L. Wesley, and E. S. Bloomfield, The RAND Corporation, N-2360/2-HHS, June 1986.

AC2. FFS outpatient visits
AC3. FFS inpatient visits
AC4. FFS dental visits

AC5, AC6. *Vol. 3: Codebooks for Fee-for-Service Treatment Episodes and Annual Episode Counts*, by C. E. Peterson, C. d'Arc Taylor, and E. S. Bloomfield, The RAND Corporation, N-2360/3-HHS, June 1986.

AC5. FFS treatment episodes
AC6. FFS annual episode counts

Claims Line-Item Series

LI1 to LI14. *Vol. 1: Codebooks for Fee-for-Service Claims*, by C. E. Peterson, M. Nelsen, D. L. Wesley, E. S. Bloomfield, and S. M. Polich, The RAND Corporation, N-2347/1-HHS, June 1986.

LI1. FFS data: hospital inpatient services
LI2. FFS data: inpatient physician procedures billed by institutions
LI3. FFS data: drugs prescribed by physicians
LI4. FFS data: supplies prescribed by physicians
LI5. FFS data: services rendered by physicians
LI6. FFS data: drugs sold by physicians
LI7. FFS data: supplies sold by physicians
LI8. FFS data: injections administered by physicians
LI9. FFS data: outpatient services billed by institutions
LI10. FFS data: services rendered by dentists
LI11. FFS data: drugs prescribed by dentists
LI12. FFS data: drugs purchased
LI13. FFS data: supplies purchased from pharmacies
LI14. FFS data: supplies purchased from nonpharmacy suppliers

LI15 to LI25. *Vol. 2: Codebooks for Health Maintenance Organization Claims*, by C. E. Peterson, M. Nelsen, E. S. Bloomfield, and D. L. Wesley, The RAND Corporation, N-2347/2-HHS, August 1986.

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

ISSUED TO DATE (cont.)

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 to LI29. *Vol. 3: Codebooks for Seattle Fee-for-Service Claims for Comparison with Health Maintenance Organization Claims*, C. E. Peterson, M. Nelsen, and D. L. Wesley, The RAND Corporation, N-2347/3-HHS, October 1986.

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

HIE Reference Series

RF1. *Vol. 1: 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.

Medical History Questionnaire Series

MH1A, MH2A, MH3A. *Vol. 1: Codebooks for Adults at Enrollment and Exit, Form A*, by C. A. Edwards, A. B. Holland, L. Y. Weissler, and M. Nelsen, The RAND Corporation, N-2485/1-HHS, August 1986.

MH1A. Dayton adults at enrollment, Form A
MH2A. NonDayton adults at enrollment, Form A
MH3A. Adults at exit, Form A

MH1B, MH2B, MH3B. *Vol. 2: Codebooks for Adults at Enrollment and Exit, Form B*, by C. A. Edwards, A. B. Holland, L. Y. Weissler, and M. Nelsen, The RAND Corporation, N-2485/2-HHS, October 1986.

MH1B. Dayton adults at enrollment, Form B
MH2B. NonDayton adults at enrollment, Form B
MH3B. Adults at exit, Form B

Insurance Preference

IP1. *Insurance Preference: Codebooks for Maximum-Dollar-Expenditure and Fixed-Dollar-Limit Families*, by E. S. Bloomfield, L. Y. Weissler, A. B. Holland, The RAND Corporation, N-2508-HHS, October 1986.

TO BE ISSUED

Master Sample Series

MS3. Supplemental data file

Aggregated Claims Series

AC7. HMO and Seattle FFS annual expenditures and visit counts

AC8. HMO and Seattle FFS outpatient visits

AC9. HMO and Seattle FFS inpatient visits

HIE Reference Series

RF2. Providers cited in HIE data

RF3. User's guide to HIE data

Medical Disorder Series

MD1. Adult medical disorders at enrollment and exit

MD2. Infant and child medical disorders at enrollment and exit

Health Status and Attitude Series

HS1. Adults at enrollment and exit

HS2. Children at enrollment and exit

Medical History Questionnaire Series

MH4A. Dayton children at enrollment, Form A

MH4B. Dayton children at enrollment, Form B

MH5A. NonDayton children at enrollment, Form A

MH5B. NonDayton children at enrollment, Form B

MH6A. Children at exit, Form A

MH6B. Children at exit, Form B

MH7A. Dayton infants at enrollment, Form A

MH7B. Dayton infants at enrollment, Form B

TO BE ISSUED (cont.)

MH8A. NonDayton infants at enrollment, Form A

MH8B. NonDayton infants at enrollment, Form B

MH9A. Infants at exit, Form A

MH9B. Infants at exit, Form B

Dental Examinations

DE1. Adults and children at enrollment and exit

Appendix C
FILE DICTIONARIES

This appendix contains the four file dictionaries for the character version of the Seattle fee-for-service comparison files. Each dictionary has two parts: basic identifying data, and listing by location.

Table C.1

FFSCOMP FILE 01
BASIC IDENTIFYING DATA

Data file name	DE012A01.PUF.DATA
Creation Date	August 11, 1986
Variable format	Character
Total number of data elements	35
Header length (bytes)	20
Derived data length (bytes)	232
Record length (bytes)	252

Table C.2

FFSCOMP FILE 01
LISTING BY LOCATION

Name	Location	Length	Type	Name	Location	Length	Type
FILENAME	1	6	A	DEI5511	109	8	I
PERSON	7	8	A	DEI5512	117	8	I
SITE	15	1	A	DEI5556	125	8	I
INSTAT	16	1	A	DEI5557	133	8	I
CONTYR	17	2	A	IMPCHRG	141	8	F
FILLER	19	2	A	DEI5560	149	8	I
DEI5553	21	8	A	DEI5522	157	8	A
DEI5502	29	8	A	DEI5523	165	8	I
DEI5513	37	8	I	DEI5524	173	8	A
DEI5555	45	8	I	DEI5525	181	8	A
DEI5514	53	8	I	DEI5526	189	8	I
DEI5520	61	8	I	DEI5527	197	8	A
DEI5521	69	8	A	DEI5528	205	8	A
DEI5515	77	8	A	DEI5529	213	8	I
DEI5508	85	8	A	DEI5530	221	8	A
DEI5509	93	8	A	DEI5531	229	8	A
DEI5519	101	8	I	DEI5532	237	8	I
				DEI5533	245	8	A

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.

Table C.3

FFSCOMP FILE 03
BASIC IDENTIFYING DATA

Data file name	DE032A01.PUF.DATA
Creation Date	August 12, 1986
Variable format	Character
Total number of data elements	32
Header length (bytes)	20
Derived data length (bytes)	208
Record length (bytes)	228

Table C.4

FFSCOMP FILE 03
LISTING BY LOCATION

Name	Location	Length	Type	Name	Location	Length	Type
FILENAME	1	6	A	DEI5606	101	8	I
PERSON	7	8	A	CRVSUNIT	109	8	F
SITE	15	1	A	IMPCHRG	117	8	F
INSTAT	16	1	A	DEI5560	125	8	I
CONTYR	17	2	A	DEI5522	133	8	A
FILLER	19	2	A	DEI5523	141	8	I
DEI5553	21	8	A	DEI5524	149	8	A
DEI5502	29	8	A	DEI5525	157	8	A
DEI5513	37	8	I	DEI5526	165	8	I
DEI5555	45	8	I	DEI5527	173	8	A
DEI5514	53	8	I	DEI5528	181	8	A
DEI5515	61	8	A	DEI5529	189	8	I
DEI5508	69	8	A	DEI5530	197	8	A
DEI5509	77	8	A	DEI5531	205	8	A
DEI5511	85	8	I	DEI5532	213	8	I
DEI5512	93	8	I	DEI5533	221	8	A

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.

Table C.5

FFSCOMP FILE 06
BASIC IDENTIFYING DATA

Data file name	DE062A01.PUF.DATA
Creation Date	August 15, 1986
Variable format	Character
Total number of data elements	50
Header length (bytes)	20
Derived data length (bytes)	352
Record length (bytes)	372

Table C.6

FFSCOMP FILE 06
LISTING BY LOCATION

Name	Location	Length	Type	Name	Location	Length	Type
FILENAME	1	6	A	DEI5560	173	8	I
PERSON	7	8	A	DEI5596	181	8	I
SITE	15	1	A	DEI5522	189	8	A
INSTAT	16	1	A	DEI5523	197	8	I
CONTYR	17	2	A	DEI5524	205	8	A
FILLER	19	2	A	DEI5572	213	8	I
DEI5553	21	8	A	DEI5574	221	8	I
DEI5502	29	8	A	DEI5597	229	8	I
DEI5555	37	8	I	DEI5525	237	8	A
DEI5584	45	8	I	DEI5526	245	8	I
DEI5503	53	8	A	DEI5527	253	8	A
DEI5505	61	8	A	DEI5575	261	8	I
DEI5565	69	8	A	DEI5577	269	8	I
DEI5568	77	8	A	DEI5598	277	8	I
DEI5569	85	8	A	DEI5528	285	8	A
DEI5570	93	8	A	DEI5529	293	8	I
DEI5571	101	8	A	DEI5530	301	8	A
DEI5511	109	8	I	DEI5578	309	8	I
DEI5512	117	8	I	DEI5580	317	8	I
DEI5566	125	8	I	DEI5599	325	8	I
DEI5606	133	8	I	DEI5531	333	8	A
DEI5607	141	8	I	DEI5532	341	8	I
DEI5608	149	8	I	DEI5533	349	8	A
CRVSUNIT	157	8	F	DEI5581	357	8	I
IMPCHRG	165	8	F	DEI5583	365	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.

Table C.7

FFSCOMP FILE 10
BASIC IDENTIFYING DATA

Data file name	DE102A01.PUF.DATA
Creation Date	August 15, 1986
Variable format	Character
Total number of data elements	64
Header length (bytes)	20
Derived data length (bytes)	464
Record length (bytes)	484

Table C.8

FFSCOMP FILE 10
LISTING BY LOCATION

Name	Location	Length	Type	Name	Location	Length	Type
FILENAME	1	6	A	DEI5525	229	8	A
PERSON	7	8	A	DEI5526	237	8	I
SITE	15	1	A	DEI5527	245	8	A
INSTAT	16	1	A	DEI5575	253	8	I
CONTYR	17	2	A	DEI5577	261	8	I
FILLER	19	2	A	DEI5598	269	8	I
DEI5553	21	8	A	DEI5528	277	8	A
DEI5502	29	8	A	DEI5529	285	8	I
DEI5555	37	8	I	DEI5530	293	8	A
DEI5584	45	8	I	DEI5578	301	8	I
DEI5503	53	8	A	DEI5580	309	8	I
DEI5505	61	8	A	DEI5599	317	8	I
DEI5565	69	8	A	DEI5531	325	8	A
DEI5568	77	8	A	DEI5532	333	8	I
DEI5569	85	8	A	DEI5533	341	8	A
DEI5570	93	8	A	DEI5581	349	8	I
DEI5571	101	8	A	DEI5583	357	8	I
DEI5511	109	8	I	DEI5666	365	8	I
DEI5512	117	8	I	DEI5589	373	8	A
DEI5566	125	8	I	DEI5590	381	8	I
DEI5606	133	8	I	DEI5591	389	8	I
DEI5607	141	8	I	DEI5592	397	8	I
CRVSUNIT	149	8	F	DEI5593	405	8	I
IMPCHRG	157	8	F	DEI5594	413	8	I
DEI5560	165	8	I	DEI5595	421	8	I
DEI5596	173	8	I	DEI5665	429	8	I
DEI5522	181	8	A	DEI5613	437	8	A
DEI5523	189	8	I	DEI5614	445	8	I
DEI5524	197	8	A	DEI5615	453	8	I
DEI5572	205	8	I	DEI5616	461	8	I
DEI5574	213	8	I	DEI5619	469	8	I
DEI5597	221	8	I	DEI5602	477	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

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 D (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 E

HMO CLAIMS LINE-ITEM FILES

File		Sample	Examples of Variables
(01)	Hospital Inpatient Services	Records concerning inpatient hospital services provided to HMO participants	Diagnoses, categories of hospital service, imputed charges
(03)	Inpatient Services Rendered by Physicians	Records concerning inpatient procedures and services provided by physicians to HMO participants	Physician services, diagnoses, admitting and attending physicians, imputed charges
(04)	Drugs Prescribed by Physicians	Drug prescriptions or suggestions written by HMO physicians for HMO participants	Drugs, dosages, drug generic codes, symptoms, diagnoses, treatment history, referral physicians (no imputed charges)
(05)	Supplies Prescribed by Physicians	Supply prescriptions or suggestions written by HMO physicians for HMO participants	Supplies, symptoms, diagnoses, treatment history, referral physicians (no imputed charges)
(06)	Outpatient Services Rendered by Physicians	Records of outpatient services provided by physicians to HMO participants	Physician services, diagnoses, symptoms, referral physicians, treatment history, imputed charges
(08)	Drugs Provided by Physicians	Records of drugs provided directly by physicians to HMO participants	Drugs, symptoms, diagnoses, NDC and generic codes, dosage instructions (no imputed charges)
(09)	Supplies Provided by Physicians	Records of supplies provided by physicians to HMO participants	Supplies, symptoms, diagnoses, treatment history (no imputed charges)

APPENDIX E (cont.)

	File	Sample	Examples of Variables
(10)	Injections Administered by Physicians	Records of injections given by physicians to HMO participants	Injected drugs, symptoms, diagnoses, drug generic codes, drug therapeutic codes, treatment history, imputed charges
(11)	Outpatient Services Provided by Institutions	Hospital/clinic records of outpatient services provided to HMO participants	Physician services, diagnoses, symptoms, referral physicians, treatment history (no imputed charges)
(15)	Drugs Dispensed	Records of drugs dispensed at HMO pharmacies to HMO participants	Drugs, dosages, drug regimen, drug generic codes, drug therapeutic codes (no imputed charges)
(18)	Supplies Dispensed	Records of supplies (primarily eyewear) dispensed to HMO participants	Supplies dispensed, primary diagnoses, prescribers (no imputed charges)

Appendix F

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

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

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 HIE reference series volume containing the code definitions for the codes used to designate diagnoses, symptoms, health procedures, drugs, and supplies in the HIE claims files. See the explanation and reference in Sec. II, p. 14.
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.
CRVS code	*California Relative Value Studies* code, a five-digit code created by the California Medical Association to define procedures and services performed by physicians and other 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.
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.
HICDA codes	Codes that define the diagnoses of physicians and health professionals. HICDA codes were taken from the *Hospital Adaptation of the ICDA (International Classification of Disease Adapted for Use in the United States)*.
HIE	Health Insurance Experiment.

HIE-insured	Enrollee assigned to an experimental health insurance plan paid by the HIE (plans A-O, described on pp. 3-4). Includes members of HMO experimental group. Compare "HMO-insured."
HMO	Health maintenance organization; Group Health Cooperative of Puget Sound, the HMO that participated in the HIE.
HMO control group	Seattle enrollees drawn at random from existing HMO members who met HIE eligibility criteria. The HIE did not pay their insurance premiums.
HMO experimental group	Seattle enrollees experimentally transferred to an HMO from the fee-for-service system. The HIE paid their insurance premiums.
HMO-insured	Member of HMO control group.
Imputed line-item charge	A charge calculated by HIE analysts for a physician or health professional service covered by GHC; also used for FFS professional services presented for GHC comparison.
Line item	An itemized claim for service, i.e., an item on a Medical Expense Report recording one instance of a provided service, drug, or supply.
MDE	Maximum dollar expenditure. The maximum out-of-pocket expense to be paid by an HIE-insured family before health care was free. The amount depended on the family's assigned insurance plan and family income.
Out-of-plan	A category of services and charges that apply only to GHC participants. They consist of FFS services that were not covered by GHC and were reimbursed five percent by the HIE.
NAMCS codes	Codes that define a participant's reasons or symptoms for a health care visit. NAMCS codes were taken from the *National Ambulatory Medical Care Survey: Symptom Classification*.
NDC	National Drug Code
Participant	Anyone with a record in the HIE database; includes baseline-only participants and enrollees.
PEG	South Carolina pre-enrollment 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.