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AVAILABILITY OF UTILIZATION AND COST EXPERIENCE DATA FOR GROUP MEDICAL CARE INSURANCE COVERAGES

Moderator: HARRY L. SUTTON, JR. Panelists: JOHN MAHDER, PETER M. THEXTON, EDWARD J. WOJCIK

1. Role of the Society of Actuaries in intercompany data collection.

2. Employer demands for sophisticated utilization data for comparison by industry and geographic location.

3. Sources of industry-wide data.

4. Data resource potential of health claims processing by the National Electronic Information Corporation (NEIC).

5. Should the Society of Actuaries develop a data base to prepare technical commentaries on national health insurance proposals?

6. Antitrust implications.

MR. HARRY L. SUTTON, JR.: Our subject today is the availability of utilization and cost experience data for group medical care insurance coverages.

The motto of the Society of Actuaries is "The work of science is to substitute facts for appearances and demonstrations for impressions." Current appearances are that inflation of medical care costs is out of control and utilization patterns have increased. Some of the facts are that a large number of insurance carriers and Blue Cross and Blue Shield plans have suffered significant financial losses during 1980, and in many cases losses have continued into 1981. Of political significance is the fact that the inflation rate of health care costs under governmental transfer programs such as Medicare and Medicaid has been uncontrollable in spite of mandatory regulation and threats to control health care prices. Some people are trying to suggest that competition with multiple benefit options, multiple insurance carriers and HMO programs for the same employer can stem the tide which insurance carriers and others seem to have been unable to affect. Governmental activities and budgetary restrictions may likely shift more costs to the carriers and indirectly to their clients, the large employers.

Where would an actuary go today to find a detailed analysis of utilization and cost trend patterns in the group insurance industry? Doubtless to the Transactions of the Society of Actuaries. There he would find that the latest report on hospital and surgical experience by industry was published in 1965. The latest group hospital and surgical expense insurance data was published in 1969. Experience on group comprehensive or supplementary medical insurance was also last published in 1969. Considering the lag between experience data and publication, any data currently available for review is approximately 15 years old. During this period of time, we have had the proliferation of coronary by-pass surgery, the flow and ebb of intestinal by-pass surgery, and maxilo-facial reconstruction. I do not mean to overlook

the various internal data mechanisms available to carriers, and their own capabilities of analysis. With the exception of the Blue Cross/Blue Shield plans which tend to be a dominant carrier in most areas, none of the major insurers has an overwhelming portion of the total group health insurance market, although one carrier may occasionally dominate a particular metropolitan area. Would not some compilation of data from all the carriers and the Blue Cross plans be of assistance not only to individual carriers to compare patterns of cost and utilization, but also to employers, outside individuals, and governmental agencies which need basic information to estimate the effects of various policy decisions?

Our panel consists of three actuaries. Two represent the major trade associations, each speaking about some experience of their constituent members or association in the areas of collecting data for actuarial analysis. The other represents a major insurance company active in the large employer market, and is well experienced in previous data collection efforts of the Society of Actuaries.

I have asked the three panelists each to take a short period of time to explain their activities in the area of data collection, as well as to reflect the demands in the major employer market for data on which to measure experience.

MR. JOHN MAHDER: During my remarks three topics will be covered:

A. What is the potential for the resumption of contributions by major insurance carriers to intercompany studies of group medical claims?

B. What is the potential for obtaining data for intercompany studies from newly emerging organizations?

C. What is the demand by large employers for charge and utilization data under their medical plan of benefits?

A. Insurance Company Contributions to Society of Actuaries Intercompany Studies

In order to assess the potential for the resumption of intercompany studies, it would be instructive to review conditions that led to the decline of data contributions during the 1960s and to the cessation in the 1970s.

- Data for detail claims studies was difficult to obtain; claim payment systems did not capture needed claim details and clerical extraction from paper files was costly.

- Aggregate policy year claims and exposure were more readily available as a by-product of the annual accounting process, but the tabulars used to calculate actual to tabular claim ratios became obsolete and detail claim studies were not available to update tabular claims.

- Rapidly changing charge levels and utilization rates resulted in data that was obsolete by the time reports were published.

- Data input was fixed and the scope of reports was limited, with very little flexibility to measure emerging trends.

- The costs and resources required to contribute medical claims experience were perceived by some to exceed benefits derived.

Attempts were made in the late 60s and early 70s to secure additional contributions to the study of Comprehensive and Supplementary Major Medical experience studies, with no success. The same problems plagued the Hospital and Surgical detail claim study, with the same result. The data available for publication was reduced to a limited number of exposure lives, and it was not representative of intercompany experience. It is interesting to note that the study of Weekly Indemnity experience, which has only limited impact and value, continues to be published even though lives exposed have declined. On the other hand, the Long-Term Disability study is an example of results that can be achieved given the proper incentives. Contribution of number of lives exposed is up sharply and data is presented according to an increased number of factors.

Given the bleak picture painted for the 60s and 70s, have conditions changed to suggest it may be feasible to resume intercompany studies of medical claims experience? I would respond with a very cautious "yes" because:

- Many carriers now have automated claim payment systems which capture the details of claims as a by-product of the claim payment process. It should be possible to retrieve these claims quickly in order to prepare reports on a timely basis.

- Exposure lives from eligibility records for certification of coverage are increasingly housed in company computer files.

- There has been movement toward standardization of data definitions and coding.

- New programming languages and software packages can speed development time and provide flexibility as well as reduce costs.

- There is a downward trend in computer storage and processing costs.

Technically, the conditions expected to emerge during the 1980s suggest that carriers will have an improved capacity to contribute data, and that meaningful results could be produced on a timely basis.

To summarize, technology and data availability suggests meaningful intercompany studies could be resumed if:

- the need for and value derived from these studies can be clearly articulated;

- the cost of such studies can be determined and justified;

- there is a commitment on the part of carriers to share data and allocate resources to make data available; and

- the significant financial and human resources required to compile, publish and analyze results can be obtained.

I will not attempt to predict what will happen because I do not know how strong the demand is, but past experience indicates the best chance for success occurs when contributions to intercompany studies are a by-product of internal studies. However, intercompany studies require large amounts of data processing and actuarial resources, both of which are in short supply. We need volunteers to develop instructions for contributing companies to collect data and to compile reports.

B. Other Sources of Data for Intercompany Studies

What about potential data sources, other than Blue Cross/Blue Shield and commercial insurance carriers, for intercompany studies? The Health Care Financing Administration has funded a few Data Demonstration Projects to determine the feasibility of establishing a central clearinghouse within various states. These clearinghouses would accept billing and discharge data from hospitals and send it to third-party payors on a standard machine readable tape format, or on a standard hard copy format. A few such clearinghouses are now in pilot operations.

The National Electronic Information Corporation (NEIC) was formed early this year and expects to be in pilot operation in 1982. The NEIC will receive billing and discharge data from hospitals (or their billing agency), and edit and transmit pertinent information to payors for claim processing. Communication will be via magnetic tape or over telephone lines, with no paper involved. In order for these two ventures to be successful, there must be standardization of data elements and coding, both of which significantly enhance the potential for shared data and intercompany studies.

I do not know whether or not the NEIC or other similar organizations have plans for retaining or sharing data, but the information they send to carriers on standard formats would provide an excellent base for studies of hospital claims. As a practical matter, because of limited market penetration and the initial emphasis on hospital billing, I do not expect these organizations to serve a significant role during the next few years as a contributor to intercompany studies unless the studies focus on hospital utilization in selected areas of the country.

C. Employer Requests for Data

In years past, reports to policyholders typically provided an accounting of premiums and claims accompanied by a listing of individual claims. More recently, many carriers developed standardized reports which displayed charges, hospital length of stay and other statistical data in a fixed format. Some of these reports were hailed as being the answer for those interested in cost containment. Many were quite extensive, but, after some initial interest, they were ignored by the policyholders because standardized reports did not meet specific employer data needs. Requests for special custom-designed reports to meet particular employer needs were turned down, or were met through costly development of special systems and programs.

As health care costs have continued to soar, benefit managers have increased their demands for information needed to manage their health care program. At Aetna we have seen substantial differences in what large employers request in the way of data:

- Some request only a few reports, designed primarily to inform management of what is happening;

- Some request extensive reports to assist in cost containment action; and

- All desire flexibility to change formats and content quickly, and the ability to request ad hoc reports on an as-needed basis.

Typical data requests include the following kinds of information:

- Virtually all reports include an overview of plan operations in terms of submitted expenses, expenses not covered, deductible and coinsurance payments required of the claimant, savings arising from Coordination of Benefits (COB) features, and amounts paid under the plan.

- What types of services are utilized? What is the frequency of hospital admission, surgery and other services? What is the average length of hospital confinement? Some requests involve the use of lives exposed in order to display utilization by age, sex and type of claimant.

- For those who are cost conscious and are seeking areas where cost containment action may be taken, we see requests for information that would point to potential abuse or misuse of health care services:

  - Where were services provided? An unduly large inpatient percentage may suggest unnecessary confinements.

  - What was the time between hospital admission and date of surgery? Lengthy delays might suggest testing that could have been performed prior to admission.

  - Were weekend hospital admissions frequent, and what was the average length of stay by day-of-the-week admission?

  - What percent of hospital admissions resulted in short duration confinements of 1, 2 or 3 days? Are results suggestive of admission for diagnostic work?

- Our policyholders desire information that reflects on our claim payment performance in the areas of:

  - turnaround time (from date received to date paid);

  - COB savings achieved;

  - reduction in charges greater than reasonable and customary limits; and

  - detection and explanation of charges not covered under the plan.

- Finally, we provide ad hoc reports to obtain more detailed information by provider, for a particular procedure or diagnosis, when ongoing reports suggest potential problems.

The reports typically summarize results for total policyholder operations as well as for major locations or subdivisions. Frequency of reporting varies (most reports are at least quarterly), and data is displayed so trends in key factors are readily determined.

The program for this panel indicates the discussion would encompass employer demands for sophisticated utilization data to facilitate comparison by industry and geographic location. To date I do not believe Aetna has received a request for comparison by industry. There is, however, an active interest in comparisons by geographic location. Employers desire comparisons of their own experience by geographic location, and comparisons of their experience in a location against experience of others in the same location.

In addition to requests for data from individual policyholders, we see activity on the part of employer coalitions that are also looking for charge and utilization data so they can address community issues. This activity will increase and has the potential to produce significant statistical data in selected areas of the country.

MR. PETER M. THEXTON: The Health Insurance Association of America (HIAA) regularly publishes data on three subjects --- hospital room and board charges, surgical charges and dental charges. In each case the data is published every six months and is generally available two months after the survey closing date. No utilization data is collected in this fashion, only price or charge data.

The hospital survey report shows the average semi-private room and board charge as of January 1 or July 1 for each 3-digit ZIP code and the average for each state and total United States, weighted by number of beds. It also shows number of beds reported, number of hospitals reporting and the number of hospitals surveyed. For the most recent survey as of July 1, 1981, 3,100 hospitals replied, representing 84% of the 3,700 hospitals surveyed. The report also shows the average semi-private charge for those hospitals in each ZIP code which supplied survey reports both currently and six months ago.

This survey is part of a continuing series beginning as of January 1, 1976. Prior to that date, the HIAA and the American Hospital Association cooperated in preparing a similar survey conducted annually, but with considerably more elaborate data by standard metropolitan statistical area within state.

The purpose of the hospital survey is to show the data for the benefit of claim examiners and other persons who have an interest in prevailing hospital room charges, and the trend in these charges over the years. Insurance departments now use the survey in some cases to set up-to-date room limits for basic hospital conversion plans. Actuaries may use the survey to estimate price inflation trends for rating group and individual insurance, and for reviewing individual insurance rate filings. The survey can be used to estimate comparative costs by geographic area.

The surgical charges survey shows a summary of surgical charges by surgical procedure code within ZIP area. A ZIP area may include more than one ZIP code in order that the volume of data by procedure code may be increased. The study is published every six months showing the last 12 months' data. The current data given is the number of times the procedure was performed, the average charge, the most frequent charge and the charge at various percentile levels from 50th to 95th.

The procedure code schedule used is the 1964 CRVS, but the HIAA does not publish any information with respect to relative values. A more up-to-date procedure code is under consideration and essentially awaits federal action for uniformity. The data as submitted by the 38 insurance carriers and administrators submitting data is screened for obvious errors, but is otherwise unadjusted. This data is part of a continuing series going back to 1974.

The purpose of the surgical survey is to provide aggregate statistical data to claim examiners for their information and aid in detecting fraud and mistake. It is not a substitute for detailed information about a particular surgical procedure and the qualifications of the surgeon performing the procedure. No other average data is published by the HIAA, nor is there any regular publication of trend data. A tape containing all the valid claims inputted for a given cycle is available for purchase by a subscriber which wishes to prepare its own statistical analysis.

The dental charges survey is virtually identical to the surgical survey, except that only the most recent six months of data are published because the volume of data is so large.

The HIAA is extremely sensitive to the possible anti-trust implications of data collection. We are very careful not to recommend that our data be used for any pricing or other competitive purpose. It is information available to everyone with a reasonable interest in the data. It is not only that we want to obey the letter and spirit of anti-trust laws, but we want it to be clear to the Federal Trade Commission and the Department of Justice that we are acting this way. One of the principal advantages of collecting this data through a trade association is that while we are very careful in preparing both the data and our reports in a professional and educational manner, we are not providing any analysis, and so we are not constrained by the same professional cautions and constraints as would be, for instance, the Society of Actuaries. This enables us to provide statistics rather quickly.

The requirements of the anti-trust laws have resulted in some controversy within the HIAA about the surgery and dental surveys. The anti-trust laws require that the results of the program be made available at a reasonable cost to everyone who asks, on the same conditions for non-member organizations as for member companies, subject to reasonable differences in price. "Reasonable" means based on actual expenses.

Third-party administrators which compete with insurance companies are able to buy the data which the insurance companies have collected, and to use it in competition to obtain business.

Any organization which pays surgical claims for 100,000 or more employees must contribute a minimum number of claims in order to be able to purchase the surveys. Some insurance companies have been inconvenienced by this requirement, but it is uniformly applied to companies, third-party administrators and self-funded plans alike.

The scale of charges for the programs is graded by size of carrier and this aspect has generated little controversy. The annual fee for the 2-cycle surgical program is from about $2,000 for the very smallest carriers graded up to about $27,000 for the largest carriers. Data contributors do not pay a fee. The fee for the dental program is substantially higher, $7,000 to $85,000, because of the much larger volume of data processed.

Harry asked me to say a few words about the Milwaukee Project and, in particular, whether or not the data will be available for actuarial studies appropriate for publication by the Society of Actuaries. This is a one-time project focusing on cost containment. The Milwaukee Project has two goals; the first is to identify and promote techniques to reduce the rate of increase in health care costs, particularly voluntary techniques. The second is to leave in place a forum for community educational efforts for the continuing promotion of voluntary health care cost containment concepts.

In pursuing these goals we obtained the cooperation of 31 employers and their nine health insurance carriers in the Milwaukee area with a total of 84,000 covered employees. Health care claim experience data of these companies was to be shared for comparison purposes. The cost containment activity commenced in late 1979 following nearly a year of planning. Some of the participating employers and insurers had begun such activities as hospital utilization review before our Project commenced.

Claims experience data will be collected for the years 1978, 1979, and 1980. A subcommittee of the HIAA and a consultant will review and publish the data in the Spring of 1982.

In addition, the Milwaukee Project has developed a format in which employers can conduct special studies on their own with respect to monitoring disability and evaluating in-house occupational medical facilities. The disability study was designed to concentrate on the effect and importance of certain categories of disablement, namely maternity, alcoholism and drug abuse, psychiatric care and repeating claimants. This aspect was constrained by possible anti-trust implications.

We are preparing an annotated bibliography of cost containment activities, strategies and techniques, which is expected to run 100 pages or so and may be available by the end of this year.

MR. EDWARD J. WOJCIK: Employers have developed an increasing interest in the cost of health care, which in 1979 approximated 5% of total payroll. Increasingly, employers are becoming spokesmen for large groups of consumers and have the potential ability to influence health care costs. Finding themselves simultaneously squeezed by the rapid cost escalation of health care expenses and reduced profit margins, many employers are demanding more and more detailed data from their insurance carriers regarding the utilization and cost of health care services provided for their employees. Employers having Blue Cross and Blue Shield coverage for their employees are no exception.

In response to employers' data needs and cost containment desires, Blue Cross of Greater Philadelphia convened a coalition of business, labor, civic and health leaders in 1977 to recommend new strategies, using private sector initiatives, to reduce the escalating trend in health care costs. This coalition, the Philadelphia Area Committee on Health Care Costs, expressing its concern for these problems, stimulated the creation of the Joint Health Cost Containment Program (JHCCP) sponsored by the Penjerdel Corporation, the Greater Philadelphia Chamber of Commerce and the Health Services Council, Inc. The JHCCP's purpose was to coordinate local industry efforts to address vital health cost containment issues. Its first task was to secure data to evaluate hospital utilization for the member companies. Blue Cross of Greater Philadelphia agreed to provide a Hospital Utilization Report (HUR), providing a data base and an analysis of experience. The primary purposes of the HUR are to:

(1) review the current utilization patterns for participating companies;

(2) compare local industrial experience to that of larger areas and regions;

(3) present hospital utilization data on a per hospital and on a diagnostic specific basis; and

(4) provide a comparison for individual company specific analyses.

In September 1980, the third HUR was published, analyzing 1979 paid claim data and comparing it to prior years for the 39 companies with Blue Cross coverage who are members of the JHCCP. It is based upon a summary of 29,688 claims which were paid by Blue Cross of Greater Philadelphia on behalf of the 314,283 Penjerdel group employees and dependents for calendar year 1979. Hospital charges for this period totalled $64 million.

Each individual Penjerdel employer receives a confidential company specific analysis of his employee and dependent hospital experience. Combined with the summary report, these data provide a basis for evaluating the use, cost and utilization features of an individual company's benefit package compared to other group experience. This comparison enables individual employers to identify areas where their experience deviates from that of comparable groups and assists employers in making corporate health planning decisions. In its service area, Blue Cross of Greater Philadelphia has been working with member hospitals to implement various cost containment programs which respond to consumer expectations for program review and quality assurance. These programs include utilization review, medical review, pre-admission testing, discharge planning, short procedure units, and use of skilled nursing facilities and home health services as in-hospital substitutes. The effect of these programs can be measured in part by the decline in inpatient days per 1,000 subscribers from 1,045 in 1970 to 710 in 1979.

The data for comparison purposes were broken out by hospital grouping. The 113 Philadelphia area hospitals were categorized into seven major groupings reflecting number of beds, geographic location, existence of major teaching programs, and medical school affiliation. In addition, these groupings reflect teaching intensity based on accredited teaching programs for house staff, i.e., residents and interns. The following table shows the average

1979 admission charges for various causes of hospitalization for each of six hospital groups. The various hospital groups were labelled as:

- A - medical school hospitals
- B - teaching hospitals (intensive program)
- C - teaching hospitals (less intensive program)
- D - mental and rehabilitation hospitals
- E - community hospitals
- F - New Jersey teaching hospitals
- G - New Jersey community hospitals

AVERAGE HOSPITAL CHARGES BY HOSPITAL GROUP

PENJERDEL EMPLOYERS

1979

		HOSPITAL GROUP*					
Diagnosis		A	B	C	E	F	G
Normal Delivery	1	$ 928.28	$ 666.09	$ 546.52	$ 425.66	$ 476.25	$ 516.11
	2	1,366.30	932.25	780.31	727.12	709.62	714.90
	3	521.49	389.84	331.71	288.20	312.07	332.71
Chronic Ischemic Heart Disease	1	2,710.46	1,453.94	1,512.19	1,324.90	2,322.90	1,291.42
	2	6,772.62	1,741.86	1,228.26	920.34	4,004.26	1,513.95
	3	920.69	415.04	266.06	241.42	472.18	311.71
Inguinal Hernia	1	1,102.04	626.44	659.05	550.11	711.63	614.13
	2	1,239.74	693.08	803.34	622.11	700.27	651.37
	3	459.18	356.63	286.74	272.61	256.71	269.26
Female Genito-urinary Nonmalignant	1	982.72	637.52	572.86	467.35	501.91	608.36
	2	1,354.60	821.48	706.35	629.36	869.40	858.88
	3	543.56	383.95	312.00	281.20	318.91	333.46

*No admissions for hospital Group D (psychiatric and rehabilitation) for these diagnoses.

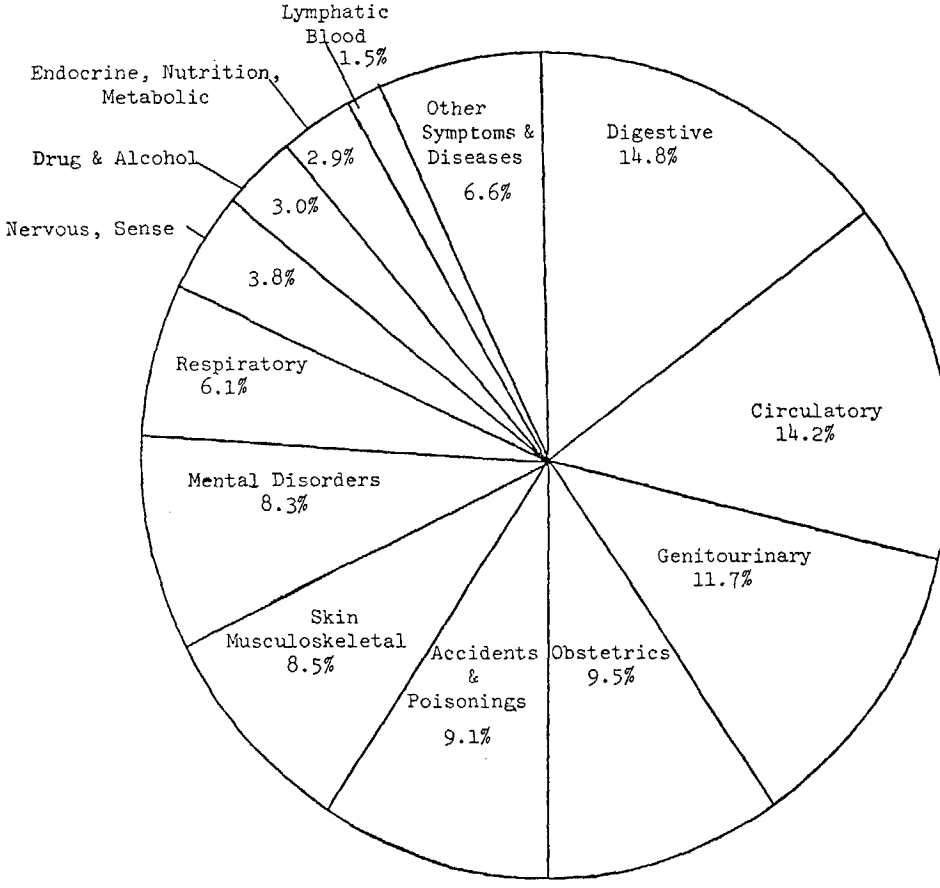
1 - Room and Board; 2 - Ancillary; 3 - Total per Day.

To facilitate analysis and comparison between groups, a system of classification of diseases and injuries was developed for use in the HUR. The statistical classifications were designed to compress the entire spectrum of morbidity conditions into a limited number of categories. Thirteen specific diagnostic categories and thirty-two subcategories of diagnoses were identified. The major groupings of the system parallel the grouping used in the Eighth Revision of the International Classification of Diseases (ICDA 8). The pie graph shown below shows the 1979 distribution of in-hospital days by specific diagnostic category.

DISTRIBUTION OF DAYS BY DIAGNOSTIC CATEGORY

PENJERDEL EMPLOYERS

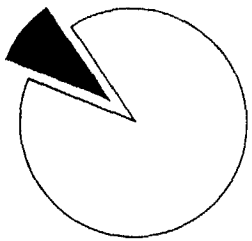
1979



The ICD was originally developed to fulfill the need for an efficient and uniform base for the retrieval and storage of diagnostic data. The distribution of inpatient days by diagnostic system has not changed measurably in the three-year study, but it is interesting to note that 8.3% of total inpatient days are used for mental disorders, and 3.0% for drug and alcohol problems --- areas that could be impacted by other programs and alternate treatment systems, i.e., on a noninpatient basis.

In each diagnostic category, average length of stay was reviewed and analyzed by patient age and by day of week of admission, separately for the employees and their dependents. Hospital charge data associated with this utilization was also accumulated on the basis of routine room and board charges, ancillary charges and total charges, each on a per-case basis. The statistical measures of performance employed throughout the report are: admissions per 1,000 subscribers, the average length of stay (ALOS), and days per 1,000 subscribers. A comparison of days per 1,000 subscribers can be very useful in evaluating apparently dramatic changes in hospital group usage to determine if these changes are real or are a result of several extreme individual cases which tend to distort the data. To this end, "exceptional hospital" data is separately identified. "Exception hospitals" are identified as those below the 25th percentile or above the 75th percentile of their hospital group's average length of stay for the diagnostic category. In addition, the ALOS must vary by a minimum of 10% from that of its peer group mean in order to be identified as an "exception hospital."

Each of the diagnostic categories was subject to a more detailed analysis. As shown below, normal obstetric deliveries accounted for an average length of stay of four days for the Penjerdel group and for all Blue Cross groups.



OBSTETRICS

The category of Obstetrics will include the diagnoses:

I	Normal Delivery
II	Cesarean Section
III	Complications of Pregnancy and Childbirth

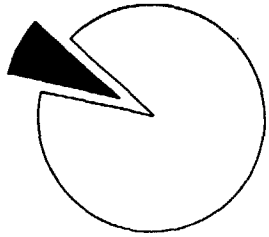
I. Normal Delivery

1979	Cases	ALOS	Days Per 1,000
Penjerdel			
Employees	742	4.1	-
Dependents	1,866	3.9	-
Total	2,608	4.0	33.1
All Blue Cross Groups	13,617	4.0	34.4
PAS-NE Region - 1977	136,575	3.7	-

This is slightly higher experience than developed in the Professional Activity Study (PAS) for the region. With the implementation of Birthing Units and Short-Stay Delivery Units, this length of stay should change.

Under the mental disorders (see below), the higher length of stay for Penjerdel groups may be attributed in part to the higher (richer) benefits for these groups compared to those for the total Blue Cross group. This comparison is even more dramatic when made against PAS data.

8.3%
DAYS



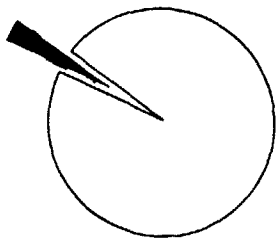
MENTAL DISORDERS

Mental Disorders

1979	Cases	ALOS	Days Per 1,000
Penjerdel			
Employees	353	18.9	-
Dependents	486	21.3	-
Total	839	20.3	54.1
All Blue Cross Groups	4,090	18.4	47.3
PAS-NE Region - 1977	53,010	13.6	-

For the drug and alcohol problems, the Blue Cross of Greater Philadelphia benefits are generally higher than the coverage available in the overall region as noted below. In turn, the Penjerdel groups generally have an even higher benefit eligibility in this category.

3.0%
DAYS

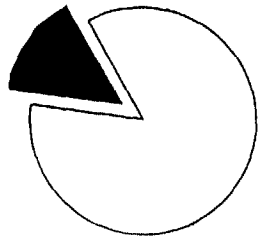


DRUG AND ALCOHOL PROBLEMS

Drug and Alcohol Problems

1979	Cases	ALOS	Days Per 1,000
Penjerdel			
Employees	274	16.9	-
Dependents	124	11.6	-
Total	398	15.2	19.3
All Blue Cross Groups	1,694	12.8	13.6
PAS-NE Region - 1977	17,941	8.1	-

Under diseases of the digestive system, inguinal hernia represents a condition which is now widely accepted as eligible for treatment in a short procedure or ambulatory care unit. This transfer from inpatient treatment to an alternate setting should yield significant savings. The graph below highlights data for inguinal hernias.



DISEASES OF THE
DIGESTIVE SYSTEM

Diseases of the Digestive System include the following diagnostic areas:

I	Appendicitis
II	Inguinal Hernia
III	Other Nonmalignant Diseases of the Digestive System
IV	Malignant Diseases of the Digestive System

II Inguinal Hernia

1979	Cases	ALOS	Days Per 1,000
Penjerdel			
Employees	370	5.3	-
Dependents	212	2.9	-
Total	582	4.4	8.2
All Blue Cross Groups	2,856	4.3	7.7
PAS-NE Region - 1977	35,762	4.6	-

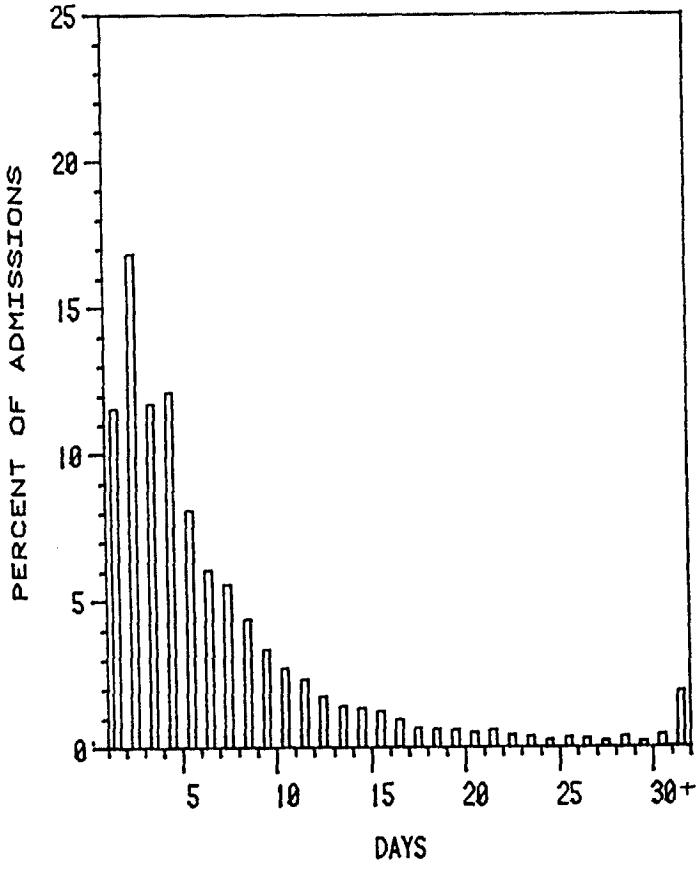
These statistical measures of performance may be influenced by many factors, including age and sex, type and size of treatment facility visited, day of admission and benefits available.

The patient's age and sex are two of the more easily determinable factors used in the analysis of hospital utilization. A person's age not only influences the likelihood of being affected by a particular illness or injury, but also the resulting incidence and length of hospital stay. Males and females tend to utilize health care facilities differently as reflected in national data showing the ALOS to be 7.4 days overall, 7.8 days for men, and 7.1 days for women. The length of hospital stay increases as one grows older, from 4.4 days for children under 15 to 11.0 days for those 65 and older.

Similarly, the size of treatment facility and the teaching program often impacts the length of patient stay. Experience has shown that patients with longer stays tend to be in larger hospitals. This is because larger hospitals tend to be teaching institutions, with greater patient investigation and more sophisticated testing. Furthermore, the more sophisticated services available in larger hospitals tend to attract patients with more serious ailments who necessarily require longer stays.

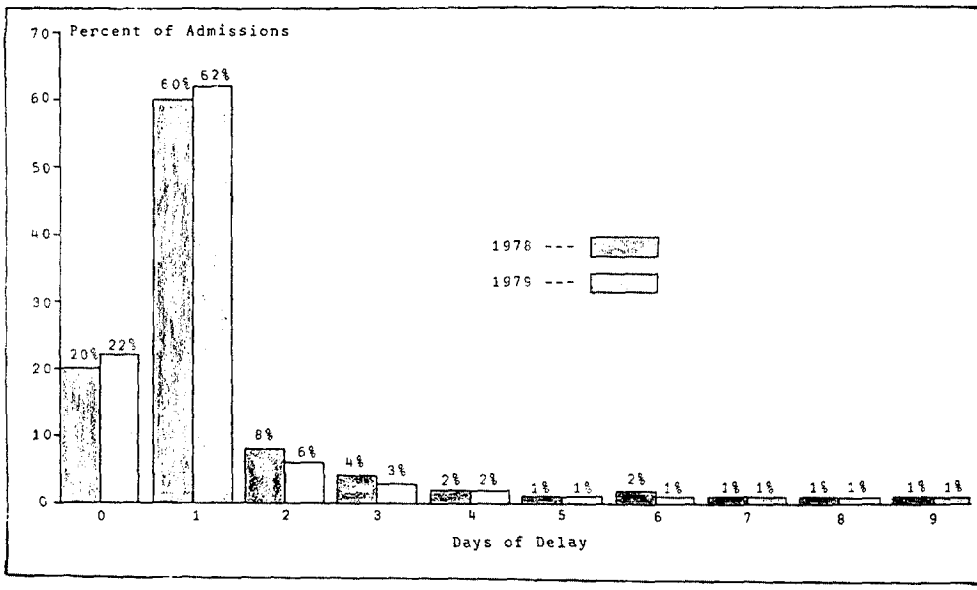
From the perspective of cost containment, the distribution of length of stay shown in the table below illustrates that a high percentage of admissions are for short hospital stays. Thus, increased emphasis on the use of ambulatory surgery and short procedure units for less serious cases could significantly reduce hospital admission rates.

DISTRIBUTION OF LENGTH OF STAY IN 1979,
FOR ALL HOSPITALS AND ALL PENJERDEL GROUPS
FOR ALL DIAGNOSTIC CATEGORIES



The effect of cost containment programs can be seen below. From 1978 to 1979 there has been a slight increase in the percentage of patients who undergo surgery on the day of admission or the first day following.

NUMBER OF DAYS BETWEEN HOSPITAL ADMISSION
AND SURGERY, 1978 AND 1979. ALL PENJERDEL GROUPS



In addition, the day of admission appears to have a dramatic impact on average length of stay. The higher average length of stay for Friday and Saturday admissions was clearly identified as a problem, and it is being monitored very closely in all hospitals. The lengths of stay for Saturday admissions for surgery more than double the average for other days; some of these may have been emergencies but many are elective admissions.

Finally, the health care benefits available to the patient may distinctly affect hospital utilization rates. Health status, conditions and type of employment affect utilization. Days per thousand vary significantly between the service industries and the manufacturing industries and especially the food manufacturing industry.

This concludes my portion on the Penjerdel study. This study is accomplishing its purpose by identifying those areas where the greatest potential for cost containment lies. The data are meaningful to the extent that there is a relatively close homogeneity of benefits with consistent coding, recording and counting of these data. This consistency is easier to obtain when, as is the case here, only one carrier is involved, and statistics encompass

a relatively localized area. This study is quite expensive with an annual cost of about $50,000 - $100,000 dollars. This cost is borne by the employers of the 39 companies involved in the Penjerdel group.