Executive Summary

The purpose of this research project, which was jointly funded by the Health Section and the Society of Actuaries, was "to assemble and analyze a limited database which may serve as a model for expanded intercompany studies of health care benefits in the future." The focus of the project was on the types and incidence of large claims, defined as claims totaling $25,000 or more for any one year.

In late 1992 the Society solicited insurer participation in the study, and follow-up letters were delivered to interested participants in early 1993. Between July 1993 and January 1994, 25 participants contributed data in computer-readable format for claim years 1991 and/or 1992. One additional carrier submitted a printed report summarizing only the total charges incurred for 1,187 individuals in 1991 and for 544 individuals in 1992; no claimant-level data were included.

The submitted data were assembled and standardized, resulting in a composite, computer-based dataset organized by participating insurer and, within insurer, by individual claimant. Participant and claimant identifiers are not included. The record for each claimant comprises the following variables: insurer code, claimant code, date of birth, gender, zip code, status (subscriber or dependent), plan status (indemnity, PPO, or HMO), total charges, hospital charges, other charges, primary diagnosis, and claim year. Exposure data, submitted by four participants, include: subscriber and dependent member-months; description of payment mechanism for each block of business; demographic summary by gender in 10-year age brackets, as of July 1, 1991; and subscriber/dependent status.

All analyses were performed separately on the two years by using claimant as the unit of analysis. Deductible amounts were defined as the minimum of each range; deductible levels were specified at $25,000, $50,000, $100,000, $150,000, and $250,000. Carriers submitting diagnostic information primarily used ICD-9 and ICD-9-CM classifications. Additional diagnostic categories were specified for some analyses.

The composite database for analysis includes 75,789 claimants in 1991, representing $4,427,068,302 in total charges; 95,447 claimants are included in 1992, representing $5,611,726,199 in total charges. Average charges per high-cost claimant are $58,413 in 1991 and $58,794 in 1992. The incidence of high-cost claims among the exposed insured is 1%; the average charge over the $25,000 deductible for these individuals is $193.20 in 1991 and $226.90 in 1992 per exposed individual.

On average, the high-cost claimant is a 44-year-old male subscriber. Most claimants are between the ages of 30 and 64. Claimants aged 50–59 years account for the highest percentage of claims (22%) and the highest percentage of total charges (21%). The highest average charges per claimant are for newborns, and the over-75 age group averages the second-highest. For female claimants, malignant neoplasms (18%) and circulatory system disorders (14%) account for the largest proportion of claims and charges. For males, circulatory system disorders (29%) account for the largest number of claims and total charges in both years. The highest *average* charges for both females and males, however, are for congenital disorders and perinatal conditions, including prematurity, averaging approximately $80,000 per case each year.

Comparison of subscribers to dependents shows that subscribers are on average older (50 versus 35 years) and more likely to be male (61% versus 39%). The average charge per subscriber claimant is $57,200; the average charge per dependent claimant is $60,700. Average total charges are significantly lower for females than for males of both statuses and in both years. For males and females, both subscribers and dependents, circulatory system conditions and cancers are responsible for the greatest number of claims in both years.

Total charges by diagnostic groupings are largest in both years for three diagnostic categories: circulatory system diseases, malignant neoplasms, injuries and poisonings. Analysis of the 30 most frequently occurring individual diagnoses shows the following order of frequency: coronary atherosclerosis, acute myocardial infarction, post-myocardial infarction syndrome, affective psychosis, and osteoarthrosis.

Of all claimants in 1991, 43% record a comprehensive, indemnity, multiple employer trust or self-funded plan; for 1992, the percentage is 37%. Of all claimants in 1991, 30% note PPO coverage; 33% in 1992. Of all claimants, 17% in 1991 and 20% in 1992 record HMO or other managed-care-plan coverage. Of all claims in both years,

10% provide no data on plan type. Average total charges in each year are highest for claimants covered by managed care plans; average charges incurred under those plans are $66,200 in 1991 and $62,600 in 1992.

Geographically, 42% of all claimants' codes are from the southern states; 20% are from the western states; and 14% are from the northeastern states. Aggregating zip codes into four regions, average charges per claimant are highest in the West ($64,000), followed by the South ($58,000), the Northeast ($56,100), and the Midwest ($56,000).

Available exposure data allows analysis of claimant characteristics from a base of nearly three million insureds in each year. Frequency and claim cost per exposure are analyzed using specified deductible levels. For both years and both genders, among employees and dependents, the highest claim costs per exposure are in the 61–64 age range, with an average claim cost in 1991 exceeding the $25,000 deductible at $913 for male employees, $508 for female employees, $453 for male dependents, and $592 for female dependents. In 1991, the highest average claim costs that exceeded the highest specified deductible level ($250,000) are in the 61–64 year age group for male employees at $26 and in the 65–69 age group for female employees at $38. At this highest deductible level, there are 293 claims in 1991 and 358 claims in 1992, for 2.9 million exposed each year.

This study allows analysis of more than 171,000 large claims in two years, representing more than $10 billion in charges. The characteristics of the claimants and their representation among the insureds offer a new view of the catastrophic claim and claimant. The value of this database can be greatly enhanced by periodic replication of its methodology and by the collection and analysis of additional data. The inclusion of additional variables, such as actual dates and sites of treatment, would permit evaluation of patterns of care within and across years. Retention of multiple diagnoses and procedure codes would improve the analysis of clinical aspects of the large-cost claimant and would permit the application of new risk adjustment methodologies. Increased information on deductibles and copayments for individual employer groups would assist in associating plan design with health care utilization and cost. Longitudinal and trend studies of large-claim characteristics would benefit researchers, policy-makers, and actuaries.