

essence have the following features: The charge of the hospital for a semi-private room is provided up to a specified number of days per hospital confinement or per contract year. Charges made by the hospital for other services such as X-ray, operating room, drugs, etc., are covered.

Blue Cross reimburses the hospitals for the care of their members on the basis of a predetermined reimbursement formula. In other words, benefit payments are not made to the policyholder.

Merit Rating in Private Passenger Automobile Liability Insurance and the California Driver Record Study, by FRANK HARWAYNE.

This study was based on data of the Department of Motor Vehicles in the State of California. A sample of approximately 100,000 individuals (1.3 % of all drivers) was selected for study and evaluation. It related the number of abstracts (records of convictions for traffic violations) in a driver's record and the number of accidents in which he was involved and established the correlation between the two.

Multiple Peril Rating Problems—Some Statistical Considerations, by ROBERT L. HURLEY.

In the past insurance in the United States has tended to separate the various insurance perils to a more marked extent than has been common in Europe. In fact for many years it was not possible to write first party (collision) automobile insurance in the same company as third party (liability) automobile insurance. Following the introduction of "multiple line" legislation in the various states some 15 years ago, the pendulum has now swung the other way and package policies providing a multitude of first and third party coverages are normal in a single contract. The first and most successful policy of this type was the Homeowners Policy. The author discusses how statistics should best be collected for rate making purposes, discusses the divisible and indivisible premium approaches, the interplay of experience under multiple peril and single peril policies, credibility and the distribution of multiple claims under Homeowners policies which follow the Poisson distribution closely.

OASDI Cost Estimates and Valuations, by ROBERT J. MYERS.

OASDI is an abbreviation of "Old-Age, Survivors and Disability Insurance" and is more generally referred to as Social Security. This system of Federal benefits applies to a large proportion of the population of the United States and is financed by employer and employee contributions. The author concludes his study with the following comment:

"Although in some quarters there has been considerable criticism of the fact that every two years since 1950 legislative action has liberalized the OASDI system, there is one important point that should be kept in mind. Each time there has been legislative activity, the Congress—particularly, the important, controlling legislative committees concerned—has very carefully considered the cost aspects of all proposed liberalizations. Any changes made have been carefully financed according to the best actuarial cost estimates available. Thus, Congress has attempted to keep the system on a self-supporting basis by keeping benefit costs very closely in balance with contribution income. The Committees have always been anxious to be

able to say that the program is "actuarially sound". In my opinion, this is true under the second, less restrictive definition of "actuarial soundness", which is fully satisfied by the self-supporting basis of the system. Certainly, the program can be said to have staunch financial safeguards as long as Congress continues to be cost-conscious, as it has been in the past, and to finance benefit liberalizations adequately.

Credibility of 10/20 Experience as Compared with 5/10 Experience,
by LEWIS H. ROBERTS.

The expression 10/20 in liability insurance means that the insurance company limits its coverage to \$ 10,000 per claim and \$ 20,000 per accident. Because of the admission of larger amounts on individual claims into the losses, experience subject to limits of \$ 10,000 per claim and \$ 20,000 per accident will be subject to more fluctuations arising from the relatively infrequent large claims than experience subject to \$ 5,000/10,000 limits. On the basis of a study of New York private passenger car experience it is estimated that somewhat over 40 %, possibly 50 %, more claims are needed for experience under the higher limits to have the same actuarial credibility as it would have under the lower limits.

In the conduct of this study, account was taken of the frequency distributions of claims by size and of accidents by number of claims. For the purpose of dealing with the subject of credibility in an analytical way, it was necessary to investigate the mathematical basis for credibility factors and to derive formulas for the coefficient of variation, or relative sampling error, of losses experienced.

In essence, both of these formulas are an extension of the Poisson theory, under which the variance of the number of independent random events occurring is equal to the expected number of events. The need for extension arises from the unequal weight that must be given to different events (due to variation between claims) and the only partial independence of events (due to multiple-claim accidents).

Commutation Functions for Individual Policies Providing for Hospital, Surgical and Medical Care Benefits after Retirement, by HENRY W. STEINHAUS.

On March 5, 1958, the New York State Legislature enacted four new health insurance laws which went into effect on July 1, 1959. One of these laws provided that, if the employer so elects, his workers covered for 3 months or more by a group policy are entitled to convert to an individual policy from the same insurance company whenever they leave their jobs to retire or for any other reasons. The individual policy must provide a benefit of at least \$ 10 per day for hospital room and board, up to 21 days; at least \$ 100 for other hospital expenses and, at a minimum, surgical benefits under the \$ 200 surgical schedule. In case of death of the worker, the law also extends this conversion privilege to the worker's wife or child.

As a consequence of this legislation which may spread into other states, health insurance benefits must be provided for the retired, through conversion of group insurance certificates to individual policies.

The purpose of this paper is to explore the health insurance experience available here and abroad for persons 65 years of age or over that might serve as a basis for rate calculations.