

ployee with spouse" exposure data to obtain the most reasonable ratemaking data. This could be accomplished merely by indicating employee's age in the loss card instead of claimant's age.

The apparent discrepancy in frequency data, where the frequency for ages over 60 is less than for the group aged 50-59, was passed by Mr. Bevan as a statistical fluke caused by lack of data. It may, however, be an inherent characteristic of this particular group. If a company has unusually liberal early retirement benefits, for example, it is entirely possible that the employees over age 60 and still working are healthier than the employees aged 50-59 and have lower claim frequencies. We would not, however, expect this result in the majority of cases. For purposes of making manual rates, it would, therefore, be necessary to use the experience of a more typical group to establish age relativities for the higher ages.

In his conclusion, Mr. Bevan has chosen to emphasize that companies must develop their own record-keeping techniques for comprehensive medical insurance. This allows for a maximum of flexibility as the ratemaking techniques become more sophisticated.

#### DISCUSSION BY ALLEN D. PINNEY

One of the most difficult tasks facing the Group Actuary today is the development of proper rates for Comprehensive Medical Insurance. The newness of the coverage, the variety of benefit provisions offered, and the many variables which affect the cost of this product have combined to raise numerous questions as to what statistical data should be assembled and how it should be analyzed for the purposes of ratemaking. The fact that Mr. Bevan had to approach this problem by making a detailed analysis of one large case rather than a study of several cases serves to illustrate the difficulties that most of us face in this area. Nevertheless, he was able to enlighten us on many aspects of this subject, and his paper is a most welcome and needed addition to our *Proceedings*. Mr. Bevan shows how important it is to have detailed statistical information of the claim charges. His method of using these charges to determine rates for various types and sizes of deductibles is sound. The only weakness in the approach used is that it does not measure the effect that differing deductibles may have on the actual utilization of the coverage. This, however, could only be measured if sufficient data were available to study the experience of many similar type plans separately by deductible.

The data obtained from any one risk will, of course, reflect any abnormality inherent in that particular risk, but it is interesting to compare the results so obtained with one's own findings. One noticeable difference appears in the distribution of charges for male employees shown in Table III where the percentage of hospital charges to total charges is significantly lower than the percentage developed from our studies.

In using the data collected from this risk to produce rates for males segre-

gated by age and deductible, Mr. Bevan develops a basic claim Cost by limiting claim amounts to the first \$1,000 of charge, and then superimposes upon this an excess charge which varies according to the size of the maximum. I favor developing a basic claim Cost for the more common maximum of \$5,000, and then adjust for lower or higher maximums. Mr. Bevan's severity data tend to be higher than the data appearing in a similar study by Messrs. Gingery and Mellman. He attributes this to the fact that his data reflects an unlimited time maximum while their data reflects a calendar year maximum. This abnormal severity data is reflected in the size of the excess charges used in Table IV and Table V. The use of an unlimited time maximum is uncommon, but I find it difficult to believe that this alone could produce such a drastic difference in the excess charges over \$1,000 or over \$2,500 than what our studies of data with a two-year benefit period indicate. Actually, I believe that the increased cost for higher maximum benefit plans may be primarily the result of groups with higher income purchasing these plans than with the increased maximums themselves.

The development of proper area and wage factors is an important consideration in producing rates for Comprehensive Medical Insurance. Recent articles appearing in the *Transactions of the Society of Actuaries* provide important data for area factors, age factors, and other variables, but little has yet been published on wage factors.

These comments notwithstanding, Mr. Bevan is to be commended for presenting an interesting and timely paper.