

**TRANSACTIONS OF SOCIETY OF ACTUARIES
1954 VOL. 6 NO. 14**

FEDERAL REINSURANCE OF HEALTH PLANS

A. What actuarial considerations surround proposals in Congress for reinsurance of health plans?

MR. J. H. SMITH observed that preliminary to a discussion of the actuarial considerations surrounding the health plan reinsurance bill, it might be appropriate to give some of the background of the bill and the work of the special advisory group which had helped in the preparation of it. The advisory group had been formed at the request of the Secretary of the Department of Health, Education and Welfare, to work with Department officials in developing the draft bill. Five actuaries were included in the advisory group, the four besides himself being Henry S. Beers, H. Lewis Rietz, Jarvis Farley (F.C.A.S.) and C. Manton Eddy. Also included were two representatives from Blue Cross and one from Blue Shield. Mr. Eddy was named chairman, and the job assigned the advisory group was to help redraft a preliminary draft bill according to four predetermined specifications: (1) the legislation was to be designed to encourage the expansion and efficacy of insurance facilities for health costs; (2) it was the intent to avoid measures which would interfere with or supplant voluntary health insurance; (3) no subsidy was intended; and (4) the operating device to be used was that of reinsurance, in line with the basic policy previously announced by the President.

The actuaries on the advisory group had recognized at once that the reinsurance idea had only limited value in fulfilling the avowed objectives, but it was deemed more promising and less drastic than certain other more sweeping proposals for government action in the health field. The reinsurance plan contemplated was not that commonly used for life insurance operations, where coverage is with respect to individual excess claims, but was like that to be found in certain casualty insurance operations where the reinsurance covers excess losses of a whole line of business in the aggregate. Its possible usefulness, therefore, was to insurance companies and Blue Cross type service plans wishing to expand their operations into new fields where the risks have not yet been adequately appraised.

From the beginning it was pointed out that most insurers do not appear to need this type of reinsurance, and there might even be no takers at all. Further, there were serious political questions involved, especially those which concerned the fact that the government would be getting its toe in the door of health insurance. With these and other reservations, the

consultants (working as individuals, not as representatives of insurance organizations) explored a number of the practical aspects of the bill and a number of changes were recommended. The final result, Mr. Smith thought, was an agreement among the consultants that, having been restricted by predetermined general principles, the final form of the project was about as satisfactory as could be hoped. Nevertheless, there was some apprehension over their being parties to the polishing of a legislative project to which wholehearted support could not be given.

MR. H. S. BEERS first discussed the actuarial problem of calculating the reinsurance premium rates to be charged. These would necessarily depend upon the special nature of this reinsurance arrangement: according to specifications, the reinsurance payments were to be equal to 75% of the excess of the insurance carrier's claims over a predetermined proportion of the insurance carrier's premiums for the type of policy reinsured. The predetermined portion was the gross premium less $\frac{1}{8}$ of the administrative expense part of the premium loading. Consequently, the carrier, before collecting any reinsurance payment, would first have to forgo its expected margin in the premium for contingencies, dividends, and profits, and would have to suffer a net loss equal to $\frac{1}{8}$ of its premium loading for expenses; beyond that point the reinsurance would pay 75% of the loss, leaving the carrier unreimbursed for 25% of this additional loss.

In one method of calculating the reinsurance premium for a benefit of this type, it is first necessary to estimate the expected claim rate and the probable error of that expected claim rate. If, for example, the expected claim rate is taken at 90%, the probable error at 1.5%, and the point at which the reinsurance begins to operate at 93%, the theoretical reinsurance premium works out to as little as $\frac{1}{4}$ of 1%. On the other hand, if the expected claim rate is taken at 50%, the probable error at 10%, and the point at which the reinsurance begins to operate at 59.75%, the theoretical reinsurance premium works out as high as 1.7%. His estimates and those of other actuaries had all been lumped together by a government spokesman as indicating a probable reinsurance premium rate structure ranging from $\frac{1}{4}$ of 1% to 5%.

Like Mr. Smith, Mr. Beers felt somewhat embarrassed at finding accepted so many of his suggestions for strengthening a bill whose basic desirability was subject to question. The fundamental nature of the bill had been postulated, not agreed to. Opinion within the group of consultants on the desirability of passage was of every shade, ranging from outright belief that the proposed bill ought to be passed by Congress, to outright belief that it ought not. Speaking for the Life Insurance Association of America and the American Life Convention in testifying on the

bill before the House Committee, he had, in the course of the questioning, offered the observation that his attitude might best be described as "yes plus no divided by two," to which one Congressman replied, "You must remember that we cannot vote that way."

MR. R. J. MYERS presented the results of his study of possible reinsurance premium rates to fit the benefits provided by the bill, and had likewise come up with rates ranging from $\frac{1}{4}$ of 1% of the carrier's premium income to as much as 5%. His methods had been based on calculations involving deviations from expected claim rates as developed by theoretical considerations from normal-type distribution curves and Poisson-type (law of small numbers) curves. The wide range of estimated reinsurance premium rates reflected the extreme difficulty of estimating probable claim rates in an untried field, and the fact that claim "experience does not stand still." A very important factor was the individual margins allowed in the premium rates for contingencies by the participating carriers. Since different participating carriers would charge the public different premium rates, the reinsurance premium rates to such carriers could be expected to be different.

Mr. Myers' theoretical reinsurance premium rates were tested against some claim studies for Blue Cross and Blue Shield for 1951 and 1952. These indicated premium rates ranging from $\frac{1}{4}$ % to $\frac{3}{4}$ %. Besides the limitations of these figures inherent in their being developed on a hindsight basis, the reinsurance rates shown by Blue Shield experience were undoubtedly too low because Blue Shield benefits are customarily scaled down when a plan runs into financial difficulties, a procedure which would probably not eventuate under the Federal reinsurance plan.

MR. A. L. MAYERSON commented on the purposes of the reinsurance bill and the possible efficacy of a Federal reinsurance plan in helping to meet them. First, he said, there was the question of determining whether or not existing health insurance coverage was inadequate. Figures from the Health Insurance Council indicated that some 60% of the population had some form of hospital expense insurance at the end of 1952, some 45% had surgical insurance coverage, and some 25% had medical expense coverage. These figures, however, included coverages of all types, some of which were quite inadequate. Furthermore, the uncovered proportions were much larger among certain groups such as agricultural workers. Insurance coverage dropped off to negligible amounts among groups such as domestics, day laborers, persons on state relief rolls, orphan children, the institutionalized population and the aged.

The next question was whether these uncovered groups could be covered at all by voluntary means. Obviously, some groups were not in-

surable, or if insurable did not have the means for paying for insurance. One large group not now covered to any great extent, the aged, could probably be covered if level premium health insurance were developed to build reserves against the much higher cost of health insurance in old age. Other means might be developed for extending voluntary health insurance to marginal groups, so that the objectives of the bill could be considered to be within practical reach.

On the question of whether Federal reinsurance would be of any help to voluntary health insurance in reaching these objectives, Mr. Mayerson observed that its purpose of being helpful to voluntary insurance experiments and its requirement of being self-supporting were to some extent contradictory. Reinsurance would probably be of little help to carriers in a position to make an accurate assessment of the risk involved in going into an untried field of coverage. It would be of greater help to carriers whose underwriting was less scientific. The plan would, therefore, naturally tend to constitute a subsidy to the weaker underwriters, and if that tendency grew the program would no longer be self-supporting. However, whether or not the reinsurance plan was practical, he thought that its proposal to Congress had a salutary effect in helping to focus attention on basic problems in the health insurance field.