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NATIONAL HEALTH INSURANCE  
Report by the Government Actuary  
on the  
**Fourth Valuation**  
of the Assets and Liabilities of  
Approved Societies

*Presented by the Minister of Health to Parliament  
by Command of His Majesty  
July 1937*

LONDON

PRINTED AND PUBLISHED BY HIS MAJESTY'S STATIONERY OFFICE

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## PREFACE.

[Reprinted from the Report on the Third Valuation of Approved Societies.]

## THE PROCESS OF VALUATION.

1. For the information of those who are not familiar with the process of valuation it has been thought advisable to indicate briefly what is the nature of this process, particularly in regard to the undertakings of approved societies.

2. The explanation given relates to the principles adopted and does not necessarily indicate the stages through which the work actually passes. In practice the volume of calculations is reduced by the use of prepared tables, the results arrived at being the same as if the processes described below had been followed in detail.

3. Valuation, as applied to insurance institutions, is a measurement of future benefit payments on the one hand and of future contribution receipts on the other. It involves, in the first place, an estimate of the number of members of each present age who will survive to each future year until, with the lapse of time, the last survivor is dead, or has passed out of insurance from any other cause required to be recognised in the calculations. In the second place, when the number of persons surviving in insurance to each succeeding year has been estimated, it is necessary to calculate the amount of the claims these persons will make in the year and the amount of the contributions they will pay. In calculating the benefits to be drawn under the system of National Health Insurance, note must be taken of the ages to which the insured will have attained, for, except in the case of medical benefit, age is an important factor in this connection. Resort must be had, for example, to tables of "sickness rates" to measure the charge for sickness and disablement benefits. Such tables show that, in general, the average amount of sickness increases steadily with age and represents (in the case of men) barely a week a year at ages under 30, while at age 65 it reaches about 8 weeks. As age advances the average amount of claims for sickness and disablement benefits thus grows regularly, although the number of persons surviving to claim these benefits is as regularly diminishing. The same methods of calculation apply in regard to maternity benefit, although in this case the course of the claims from age to age is different, the liability diminishing after a comparatively early age has been passed. In connection with sickness, as well as with survivorship, the element of age enters into the estimate of contributions receivable in future years since during incapacity for work contributions are not payable.

4. It is not, however, sufficient to estimate the total of benefits that will be drawn or of contributions that will be paid in each

succeeding future year. What is required is the value of these amounts in present money; this is obtained by discounting at compound interest. On summarising the figures so produced the actuary obtains the "present value" of all the sums that will be paid in benefits and the "present value" of all the sums that will be received in contributions.

5. Having obtained these values he is now in a position to prepare his valuation balance sheet, and this he does, so far as the system of National Health Insurance is concerned, by inserting on the one side the present value of the benefits to be drawn (including cost of administration), constituting the liabilities, and on the other side (i) the present value of the contributions to be paid in future, (ii) the present value of the State grants taken as a proportion of the benefits and (iii) the amount of the benefit fund on the valuation date. The sum of these three latter items constitutes the assets. If these are greater than the liabilities there is a surplus; if, on the other hand, the liabilities are the greater, there is a deficiency.

6. It will be seen that the process of valuation relates to the future and not to the past. This is a general truth, whatever the type of insurance organisation whose contracts are being valued. Past experience is relevant to valuation only in that it provides an index to what the future may be expected to produce; records of such experience indeed supply the basis for the tables of mortality, sickness, &c., used in actuarial valuations.

7. It should be noted that the balances of the contingencies fund and administration account are not treated in the valuation as assets of the benefit fund. Although the contingencies fund balance is transferable to the benefit fund immediately after the valuation date, it cannot on that occasion, assuming that the valuation shows a surplus, be treated as additional surplus available for distribution.