DIGEST OF DISCUSSION OF SUBJECTS
OF GENERAL INTEREST

LONG-RANGE PLANNING

To what extent and by what means are long-range plans, designed to achieve pre-established goals, being developed and used as management tools in the life insurance business?

CHAIRMAN J. STANLEY HILL: Long-range planning means many things to many people. To some it is a budgeting process. To others it is the projection of growth to plan for capital needs and manpower needs and the need for physical facilities, including building space. To still others it is a total management concept. Our program for this morning was designed with the following ideas in mind:

1. Some elements of long-range planning exist in almost all companies.
2. Most of our long-range-planning programs, when measured against the total management concept, are strong in some areas and weak in others.
3. Each of us has much to learn from others regardless of the current status of our long-range-planning efforts. For example, the actuary who has specialized in forecasting techniques may learn from exposure to the total management concept; the actuary who is already well steeped in the total management concept may find this morning some particular technique or process which fills a significant void in his existing program.

Our program consists of three parts—each with a different emphasis: (1) I shall attempt to convey briefly the total management concept—primarily through a review of the excellent panel which Allen Thaler presented in Washington. (2) Our guest speaker, Dr. John Hogan, will describe a variety of modern management techniques being successfully applied in his company. (3) You, the audience, will, I trust, show us a cross-section of the long-range-planning activities going on in your companies—whether they involve the total management concept or whether they represent specific techniques and methods applied to specific areas.

At the April 28 meeting of the Society in Washington, Allen Thaler fielded a superb panel of experts on long-range planning. They were Robert J. Lamphere, vice-president, Corporate Planning, John Hancock Mutual Life Insurance Company; Jim Lewis, vice-president, Individual Insurance, Confederation Life Association; and Morrison H. Beach, senior vice-president, Planning and Research, the Travelers Corporation of Hartford.

Although each of their presentations seemed different, all had these important elements in common:

1. All have the enthusiastic support and leadership of top management.
2. All involved actively every level of management.
3. All involved every major function of management.
4. All stressed the importance of people.
5. All utilized the best modern management techniques, including:
   a) Economic forecasting.
   b) Multiple or participated management.
   c) Management by results, including systematic automated methods of collection, processing, and distributing the appropriate measurement information.
   d) The use of computer models or other simulation techniques.
6. All believed that planning objectives must be balanced off against each other.
7. All considered long-range planning vital to their companies' success.

By this time I hope that I have piqued your curiosity to the point where you will want to read a full account of the Washington panel presentations.

The Washington panel was entirely devoted to the total management concept. By contenting ourselves with the summary of that phase of the presentation, we have allowed time for a more detailed coverage of some of the techniques of long-range planning. Many of us are experimenting with various techniques, and it is difficult to choose the best method of presenting these. In my opinion, it seems best to leave this part of the presentation in the hands of one person who, to the best of my knowledge, has had the longest and most successful experience among companies in the midwest area in the use of modern forecasting techniques in connection with planning activities.

It is, therefore, my pleasure to present Dr. John Hogan, who is staff economist and director of market research for the Northwestern Mutual Life Insurance Company. Dr. Hogan did his undergraduate work in economics and history, took a Master's degree in economics and statistics, and his doctoral degree in economics and social psychology. He likewise took his postdoctoral work in economics and mathematics. He has had extensive experience in University teaching, government, and consulting work and currently is with Northwestern Mutual in the capacity that I have already indicated. He is a member of the American Economic Association, American Statistical Association, National Tax Association, Association for Computing Machinery, and National Association of Business Economists. He has likewise participated in the publication of a number of books, articles, and reports. It is my pleasure to introduce to you Dr. John Hogan.

DR. JOHN D. HOGAN:[*] Long-range planning came into vogue more than twenty years ago. Its origin can be traced to the encouragement given war contractors midway through World War II, by government and industry groups, to anticipate reconversion and plan to meet transitional production problems. The smoothness of industrial demobilization and reconversion in the immediate postwar years undoubtedly owed something to preplanning. Nothing succeeds like success, and, in due course, textbooks on management began to list long-range planning[1] as a primary management responsibility—indeed, a responsibility for lack of which the future in a dynamic economy might pass a company by. Predictably, the subject became faddish.

The insurance industry has at least as much reason to be concerned about the future as any other industry and probably receives its share of *Harvard Business Reviews;* hence, the responsibility for monitoring the future has been assigned to one body or another in most insurance companies according to prevailing notions of good management practice. At the industry association level, the importance of long-range planning has not been overlooked either. The Institute of Life Insurance, especially, has seen to it that we do our share of worrying about troughs in the age profile of the population, the decline of life insurance companies' share of savings dollars, the inflationary long-term trend, and other menacing developments. Characteristically, the insurance press has called attention to the necessity for long-range planning a decade after most industrial journals had decently interred and quietly forgotten the subject.

It is, of course, well that long-range planning is being discussed in the insurance industry. We can only be advantaged if the implications of planning become more widely understood and if, having realized the kinds of analytical tools planning requires, we proceed to develop them. It is this latter possibility that I will discuss today.

THE LONG-RANGE-PLANNING CONCEPT

Companies that have not practiced planning with what they regard as proper enthusiasm are prone to consider it heady stuff that requires a consultant. The consultant, for his part, as often as not arrives in his client's conference room having to find a diplomatic way to make clear that long-range planning is not long-term forecasting. A forecast is a valuable tool in planning but is basically different from planning itself. In fact, a good rationale for long-range planning is that we do it because we *cannot* forecast! Strangely enough, long-range planning is oriented to

[1] Hereinafter, planning will be construed to mean long-range planning.

the *present* rather than to the future.[2] It is concerned with the expected consequences x years hence of decisions made today—*not* with early anticipation of decisions to be made in the future. This implies that the workaday practice of actuarial craftsmanship is the quintessence of long-range planning, and so it is. Manufacturing companies might wish that they could carry on long-range planning of their operations in a manner as sophisticated as that of most life insurance companies.

I could stop here and leave all of you cheered. There is, however, more to be said about long-range planning in the insurance industry—about problem situations, such as setting goals, and about analytical tools—and not all of it complimentary to the actuarial profession. It seems to me that one might have expected greater use of computer models and computer arithmetic capabilities by actuaries to advance insurance planning. In fact, there has been relatively little use of computer constructs for decision purposes in the insurance industry, and one can search the major management science and operations research journals for a decade without discovering extensive actuarial authorship.[3]

Long-range planning has evolved in the hands of the academicians into a procedure that involves a series of "steps," more or less elaborate depending on the ritualistic bend of the prescribing academician. The necessary number of steps is always "enough to accomplish the purpose," and this would seem to mean an irreducible number of three—the objectives to be accomplished must be stated; the assumptions underlying the system (the conceptualization of the system) must be specified; and a framework must be provided that permits feedback and checks the plan in (preferably simulated) operation.

Among the procedures, conceptualization (modeling) of the behaving system is usually the most difficult. Manipulation of the model, until recent years, was restricted by the capacity limitations of computers,[4] but present machines have reduced this restriction. Objectives in most industries are related explicitly to profitability and are well understood

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[2] The most readable exposition of this concept is Peter F. Drucker, "Long-Range Planning: Challenge to Management Science," *Management Science*, III (April, 1959), 238–49.

[3] Without laboring this point, the author's "Management Science Applications in the American Insurance Industry," Communication No. 43 (Paris: Comité d'action pour la productivité dans l'assurance, 1965), illustrates the theoretical concepts in use and their applications. A bibliography prepared by Professor Eli Zubay summarizes authorship of management-science applications to the insurance industry.

[4] For models operated on the principles of those introduced in this paper, the memory-core storage requirement increases *factorially* with the number of product-lines-plus-distribution channels.

by management. This is not the case in the insurance industry, a point that will be discussed later. The ideal planning tool is now widely considered to be a dynamic model of a system that can be manipulated on a computer to give a faithful replica of the real world system.[5] Simulation is the term applied to manipulation of the model.

The insurance industry provides some of the most promising opportunities for simulation of any industry. At the same time, the industry poses unique problems. Some of these problems are inherent in the system while others derive from conventional management practices. A brief discussion of these problems will clarify some of the reasons for the tardy development of insurance system simulation.

INSURANCE COMPANY PLANNING SITUATION[6]

Consider the (life) insurance company system: a churning aggregate of risks representing to the company expected values of premium income, investment income, benefits to policyholders, expenses, changes in assets, changes in reserves, and changes in surplus (net gain). The risk aggregate is, at any point in time, enveloped by an equal or greater aggregate of reserve and contingency assets with similar dynamic properties. Because the system is largely "determined" for any short period, such as a year, its state changes very slowly. Thus, some number of annual sales increases (decreases) are necessary to increase (decrease) assets appreciably. The life insurance industry is singularly immune to many of the trials that confront the usual business venture.[7] Sometimes it seems as though the earth could fall away around a large mutual life insurance company and all hands would survive unscathed—which may be the crux of long-range-

[5] References here are extensive. Guy Orcutt *et al.*, *Microanalysis of Socioeconomic Systems: A Simulation Study* (New York: Harper & Bros., 1961), is a general demonstration of dynamic simulation capabilities. Computer capabilities are described in L. Krauser, "Long-Range Manufacturing Planning: Crystal Ball or Computer," *Tool Engineer* (June 15, 1960), pp. 73–77; K. M. Dale *et al.*, "Production Cost Calculations for System Planning by Operational Gaming Models," *Power Apparatus and Systems* (February, 1960), pp. 1746–51; C. W. Morse, "Long-Range Planning: Its Role in Manufacturing," *Tool and Manufacturing Engineering*, XLIX (September, 1962), 77–79; and R. E. Jackson *et al.*, "Long-Range Planning," *Chemical Engineering Progress*, LXI (January, 1965), 83–87. A brief summary of planning requirements is given in Bruce Payne, *Planning for Company Growth* (New York: McGraw-Hill Book Co., 1963).

[6] The discussion here is oriented primarily to a large mutual company, but the message, such as it is, would seem to have broad insurance industry application.

[7] More specifically, problems of inventory policy, pricing strategies, technological competition, frequent style changes, fixed-capital requirements, and other decisions that can make or break a manufacturing organization have few counterparts in the life insurance industry with its continuous-payment product.

planning problems in these companies. Because the expected values of the risks assumed have been expertly established and because the short period derivatives of the chief accounting flows are so small relative to the asset and liability stocks, a passive managerial posture is possible. The direction of the risk and reserve aggregates, that is, decisions about increasing (decreasing) their size and composition, tends to be intuitive—insofar as investigatory records, speeches by presidents and chairmen of boards of trustees, and hearsay permit any gauge of an admittedly secret subject. A survey of the histories of large companies, however, reveals scarcely any calamitous mistakes.[8] This is not so strange, since intuitive strategies have as their most attractive feature that they are proof against major mistakes. ("Nothing ventured. . . . ") There is, however, an unattractive feature to such strategies—their antienterprise orientation, the high probability of opportunities lost for not being grasped or perhaps even recognized.

The (life) insurance company system, then—at least the large and well-established companies—tends to be an "adapting" rather than a "goal-satisfying" system in its behavior, geared more to retrenchment than revolution, in game-theory terms "minimax" rather than "maximax." Life is more or less serene around a large life company, depending on the astuteness of actuaries twenty years back, and twenty years hence serenity will depend on the astuteness of the current actuarial contingent.

Planning is so commonly expressed in terms of the necessity to maximize or minimize some criterion function that it is appropriate to explore the signal problems life insurance companies (especially the mutuals) face in determining their objectives. Should the goal-establishing body of a large mutual company maximize (or minimize) something? Assuming the validity of the mutual principle, prima facie, should they minimize net cost? An affirmative response implies a decision to liquidate! If something less than minimization is sought—for example, a decent respect for costs such that the company will rank among the top third of all companies by this criterion—then a trade-off of solicitude for present policyholders as over against other parties in interest is implied.

[8] This can be pressed too far. Certainly a large proportion of companies made serious mistakes in the accident and sickness insurance lines after World War I, and neither the casualty nor the life companies anticipated the mortality implications of the automobile. More recently, many companies found themselves seriously strapped for growth funds as a consequence of having taken long-term positions in low-coupon securities during World War II, in a highly artificial market produced by the Federal Reserve System's "pegging" of the government bond market. Other examples are cited in the author's "Transition to Scientific Management: Problems and Prospects" (Paris: Comité d'action pour la productivité dans l'assurance, 1965).

What is the rationale for the trade-off, and what are its terms? A frequent argument raised (axiomatically) in defense of the trade-off is that the company must perpetuate itself, that a growing company requires a field force with *élan*, and that the sense of being part of a winning team is essential to that *élan*. This argument begs the question; but, if it is granted, there remains the question of the trade-off—the "cost" of choosing to do something other than optimize a desirable objective. One sometimes hears the argument for minimization or near-minimization of net cost put this way: Low net cost helps sales. But, over a horizon that would (in most industries) fall within the long-range spectrum, insurance company net costs and sales are opposing flows; to press sales growth is to raise net costs.[9]

These illustrations will indicate that the lot of the helmsmen of a large mutual (and, one suspects, the helmsmen of any large insurance company, mutual or stock) is not a happy one. A disconcertingly large number of areas of conflict plague the determination of objectives. One consulting organization that has given its attention to insurance companies has suggested as a goal for companies—mutual and stock, casualty and life— CDA, "contribution to dividends and assets."[10] It should be obvious that the dividend maximization goal has all the limitations of net costs in that its maximization would logically call for liquidation. Contribution to assets, among other limitations, does not relate current performance to current growth.

If there is any model that can describe with tolerable accuracy the ongoing processes of a (life) insurance company, it is probably the homeostasis model[11] that biologists use to describe the behavior of an organism in its environment. In this model, disturbances of the ecological or physicochemical state excite adaptive responses by the organism as required to restore equilibrium. It is possible to conceptualize an insurance company by a control model[12] in which a sensor would detect deviations

[9] This is a homey homily in the insurance industry that requires some empirical exploration of its limit situations. The horizon referred to is the more-than-five-years conventional near boundary of long range.

[10] McKinsey and Company, in *Meeting the Management Challenges Facing the Life Insurance Industry Today* (New York: McKinsey & Company, October 29, 1965), chap. iv, pp. 1 ff.

[11] A readable exposition of the principle applied to other-than-biological systems is Kenneth E. Boulding, *Reconstruction of Economics* (New York: Wiley & Sons, 1950); also Kenneth E. Boulding and W. Allen Spivey, *Linear Programming and the Theory of the Firm* (New York: Macmillan Co., 1960) pp. 13, 189–90.

[12] The reference to control theory and methods is in Julius T. Tou, *Modern Control Theory* (New York: McGraw-Hill Book Co., 1964) and *Optimum Design of Digital Control Systems* (New York: Academic Press, 1963).

of "actual" values of a variable (or a system of variables) from "desired" values and excite changes in certain "control" variables (those variables which, in contrast to the autonomous "state" variables of the system, can be changed) that would minimize the deviation.[13] Efforts to build such a model indicate the basic feasibility of the approach, but the restrictions on the model severely limit its realism.[14] More conventional conceptual designs familiar to actuaries seem better suited to the needs of long-range planning.

The procedures discussed in the remainder of this paper are variations on familiar actuarial methods. They describe, in turn, conceptual tools for (1) long-range agency planning, (2) long-range company planning, and (3) long-range agency system–company planning.

AN AGENCY MODEL FOR LONG-RANGE PLANNING[15]

The agency is the basic unit in an insurance company system. One refers to a company's field force but means the agencies' salesmen. At a certain minimum manpower complement, probably ten to fifteen salesmen, the operations of an established general agency can be simulated on the computer. Frequently, as in the Northwestern Mutual, the sheer complexity of the compensation system makes computer simulation desirable in order to select profitable strategies of agency development.[16] In any case the lack of financial management skills in the sales-oriented general agent is a sufficient reason for providing him with financial-planning services. A typical general agency receives compensation as a return on two major assets—the premium in force (renewal margins and, possibly, selected fees) and the current agent force (first-year margins on new premium produced and, possibly, selected fees).

[13] A working model of an agency's recruitment operations has been designed by the author in which the state variables "size of the agent force" and "average production" are monitored by a sensor that measures deviations of *average* production per agent from *desired* (profitable to the general agent) production. The control variables are the number of new recruits and their quality (cutoff score on a selection test).

[14] Under conditions of uncertainty, it is necessary to adapt the model to the restrictions of the certainty-equivalence theorem; generally, linearity in the state and control variable relations and a not-greater-than quadratic criterion function (see Charles C. Holt *et al., Planning Production, Inventories, and Work Force* (Englewood Cliffs, N.J.: Prentice-Hall, 1960), pp. 127 ff.

[15] This model is deterministic, meaning that the probability distribution is known. A stochastic model without this assumption was developed by the author and Joseph L. Midler in 1960. The reference is "Simulation of Manpower Development" (Milwaukee: Northwestern Mutual Life Insurance Company, 1960), 20 pp. (mimeographed).

[16] Some twenty different ways to earn compensation are possible under the system, each with a related expense. If the twenty items interacted only once (and the indications are that multiple interaction takes place), the strategies are $(20)^2$!

The model is developed logically, as follows. Let (x,y) denote an agent's characteristics, x being the agent's age and y his duration of service at time zero, and $E(T|x,y)$ denotes the expected value of all future production of an agent with present characteristics (x,y) at time T in the future; then

$$\int_0^\infty E(T|x,y)\,dt \tag{1}$$

is the expected future production of the agent based on characteristics x and y. Discounting this expression for interest gives as a present value

$$\int_0^\infty V^T E(T|x,y)\,dt \approx \sum_{t=0}^\infty V^T E(T|x,y), \tag{2}$$

where $V = 1/1 + i$; $i =$ annual interest rate.

The present value of an agency is, then, merely the sum over all agents of the approximate present value expression (2). Tabular values for $E(T|x,y)$ for all values (x,y) and T provide the bases for computing estimates of agencies' present values.

The model requires an estimate of an agent's future production potential based on recent production results. To obtain the required base estimate, $E_{x,y}$, let $P(x,y)$ denote the annual production of an agent with age x and duration of service y in the immediate past year. The estimate of $E_{x,y}$ must be chosen to remove the effects of annual random fluctuations in the agent's historical production record. We proceed by removing the effects of age x and duration of service y on the prior year's production by dividing each annual production experience by an expression of the form

$$\prod_{e=0}^y r_{x-e,\,y-e} = N_{x,\,y}. \tag{3}$$

Expected production changes can then be considered independent of the agent's age or duration of service. Then, if $P_{x-e,\,y-e}$ is the annual production of an agent e years ago, we have

$$E_{xy} = N_{xy}[a P_{xy}/N_{xy} + \beta P_{x-1,\,y-1}/N_{x-1,\,y-1} + \ldots + \epsilon P_{x-e,\,y-e}/N_{x-e,\,y-e}] . \tag{4}$$

In expression (4) the coefficients $a, \beta, \ldots, \epsilon$ should be chosen to minimize random fluctuations around the underlying progression. This can be accomplished by using weighted average, exponential smoothing, regression, and other techniques.

A simplified flow chart showing the procedure of the model is given in Figure 1. The model retrieves the basic data, such as in-force-by-plan, agents' ages, lengths of service, previous production, and so forth, and

applies to the data rates of persistency, agent termination, and so forth. With the basic data stored and continually updated, the rates that drive the model can be specified on a control card (as shown in Fig. 2) and easily changed to simulate the system under alternative assumptions. Given the necessary cost and revenue data systems, an I.B.M. 7080 computer can produce ten-year projections for all the one hundred agencies in the Northwestern Mutual system in 15–20 hours of computing time.

Two major data systems are required to fuel this model—a revenue data system and a cost data system. The revenue data are paid by the home office and, hence, can be made available to the model in any form desired. Cost data are another matter. The general agent pays his expenses directly and reports the details of his accounting statements to the

EXPECTED SALES SIMULATOR
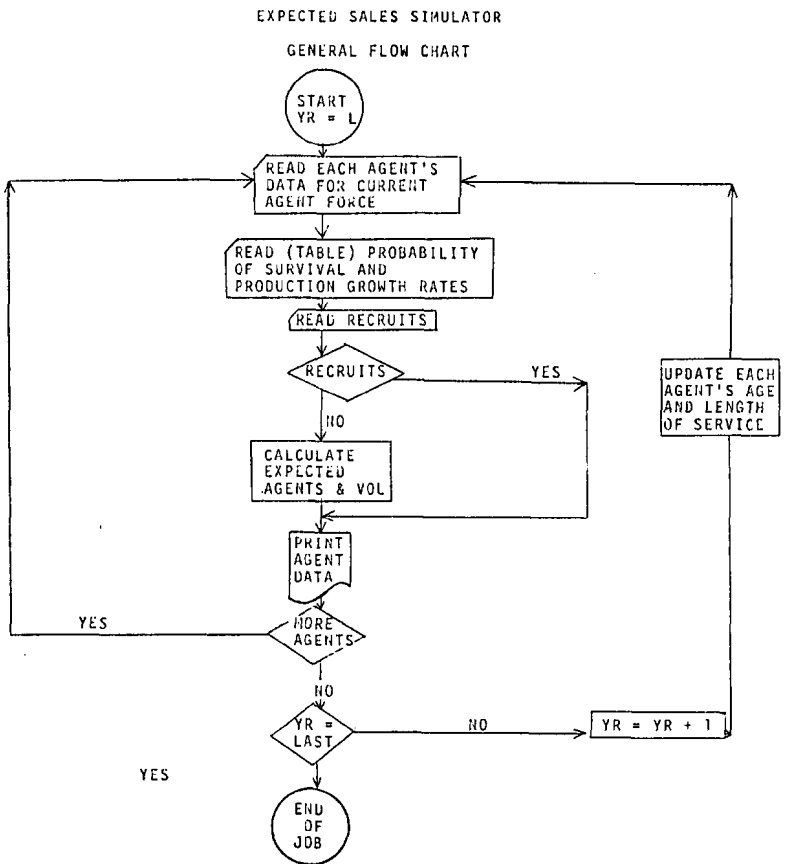
GENERAL FLOW CHART

FIG. 1

home office annually. For the model to replicate the profit consequences of various general-agency activities, however, costs must be related explicitly to the activities. Data relating costs to activities are obtained by a functional activity analysis[17] that gives time allocations according to the following functions: (1) recruiting and selection; (2) agent development; (3) sales assistance and promotion; (4) policy service and maintenance; (5) administration; and (6) personal (general-agent) production.

[17] A variation on the LIAMA's agency-activity-analysis system is used to gather cost data. General agencies submit work-pattern time studies of two weeks' duration on a staggered schedule quarterly (first two weeks in the first quarter, second two weeks in the second quarter, etc.). The time data are converted to a cost basis as explained.

SIMULATION CONTROL CARD - AGENCY

Financial Simulation Controls

Policy Persistency Rate

Agent Termination Rate

Agent Production Growth Rate

Commission Rate

New Agent Development Expense Rate

Production Expense Rate

Renewal Expense Rate

Simulated Average Production
    Per Agent Change

Agency Selection Control

Agency Number

Initial Year

Fig. 2

These functions are cross-classified according to their relationship to clerical service or supervision, general agency, general-agent personal production, or district agency[18] origin, and agent by agent. The agent-by-agent activity distribution is shown in Figure 3. Activities are measured in man-hours. This time measure is employed to break out the desired expense component from the usual expense categories of the agency profit and loss statement. For example, an agency that allocated one hundred hours of a supervisor's time to agent development (subcategory, field training)—the supervisor's hourly expense being $5—would charge

AGENT-BY-AGENT ACTIVITY DISTRIBUTION

COSTS AGENT-BY-AGENT

AGENT	FUNCTION				
	RECRUITMENT & SELECTION	AGENT DEVELOPMENT	SALES ASSISTANCE & PROMOTION	MAINTENANCE & POLICY SERVICE	ADMINISTRATION
SPECIAL AGENTS					
A					
B					
C					
SOLICITING AGENTS					
A					
B					
C					
FULL TIME					
PART TIME					
TOTAL					

FIG. 3

$500 to agent-development *cost*. If Agents A, B, and C received, respectively, 20, 70, and 10 hours of the supervisor's time, then Agent A is charged with $100, Agent B with $350, and Agent C with $50 agent-development *cost*. Rent, heat, and light expenses can be allocated according to square-footage occupied by agents, clerical staff, and supervisory staff. Rules for other expense categories are applied in a similar way.

If expense and revenue for comparable classifications are known with tolerable accuracy, net income and profit (expected value of future receipts discounted for persistency, mortality, time, etc., plus net income) can be caluclated and allocated as desired, for example, by agent, as shown in Figure 4. In general, however, an over-all agency income and

18 A district agent is an "enfranchisee" of the general agent, who engages in personal production and also contracts and trains "soliciting agents."

AGENT-BY-AGENT PROFIT ANALYSIS

AGENT	INCOME INCL. RENEWAL MARGINS	EXPENSES				PROFIT
		AGENT DEV.	SALES ASSIST.	ADMIN.	TOTAL	
SPECIAL AGENTS JOE SMITH** JOHN BROWN** BILL BLACK	$ 5,000 1,000 2,500	$ 900 1,500 750	$1,400 400 1,000	$ 500 400 750	$2,800 2,300 2,500	$2,200 -1,300 0
SA TOTAL	8,500	3,150	2,800	1,650	7,800	900
SOLICITING AGENTS F.D. WHITE BUD GREEN* JOE GRAY.	2,000 500 1,200	700 100 400	600 200 500	100 50 150	1,400 350 1,050	600 150 150
SOL. TOTAL	3,700	1,200	1,300	300	2,800	900
PART TIME*	1,500	1,600	600	450	2,650	-1,150
FULL TIME	10,700	2,750	3,500	1,500	7,750	2,950
EXPERIENCED**	5,000	900	1,400	500	2,800	2,200
INEXPERIENCED	7,200	3,450	2,700	1,450	7,600	-400

FIG. 4

profit projection is computed. Subject to specified variations of any of the following factors, the output shown in Figure 5 is produced:

INCOME

Policy persistency
Policy mix
Agent termination rates
Recruitment
Extent of commutation of renewal margins
Fees for servicing policies in force
Fees for recruitment and agent development
Other income

EXPENSES

Recruitment and selection expense
Agent-development expense
Sales assistance and promotion expense
Maintenance and policy-service expense
Administrative expense

A typical projection of the results of a change in general-agency activities—in this case increased recruitment—is shown in Figure 6. Years 1–4 and 5 are actual; years 6–10 are projected by the model.[19]

The model is a valuable aid for agency planning and research into the nature of agency operations. A degree of detail and flexibility is achieved that could be obtained in no other way. Figure 7 illustrates these properties. ("Nature" is used here in contrast to "state" in the same sense as a motion picture is in contrast to a snapshot.) Decisions affecting the agency system, such as mergers, cancellations, and territorial splits, have been made by the company on the basis of computer simulations employing the model.

A COMPANY MODEL FOR LONG-RANGE PLANNING

A company model differs in fundamental ways from an agency model. The logic system is more complex and more important. Data systems are, relatively, less important than they are in the agency model, if only because they do not have to be obtained from a large number of general agencies.[19] In other respects, the company model is similar to the agency model just described. Basic data are retrieved and rates applied to them to drive the model. As with the agency model, the company model is

[19] A system of functional cost analysis in which conventional cost categories are assigned to insurance and investment functions, then to control centers, operates in the company and fuels the model. See Fig. 10.

PROJECT YEAR	----PREMIUM----		COMMISSIONS	--------------INCOME------------------		
	ISSUE	INFORCE		COLL FEES	IND FEES	OTHER INCOME

BY:
 TOTAL

1. DA
2. GA
3. FT
4. PT
5. FT-SPECIAL AGENT
6. FT-SOLICITING AGENT
 .
 .
 .
10.

		------EXPENSES------------------			(1) NET INCOME	FED INCOME TAX	NET AFTER TAXES	(2) VESTED EQUITY	(3) PROFIT
FIXED	RENEWAL	PRODUCTION AGENT DEVELOPMENT	SALES ASSIST- ANCE & PROMOTION	ADMIN- ISTRA- TION					

NOTE: (1) PLUS ANNUAL CHANGE IN (2) = (3)

FIG. 5

AGENCY PROJECTION

YEAR	PREMIUM		INCOME GROSS	EXPENSE	INCOME NET	VESTED EQUITY	NET PROFIT
	ISSUE	INFORCE					
1-4	$277,635	$2,965,671	$ 67,596	$40,506	$27,089	$211,830	$ 43,288
5	291,561	2,881,312	102,650	50,549	52,101	122,746	114,847
6	320,543	3,117,071	116,513	61,234	55,279	183,144	115,676
7	347,400	3,372,030	124,961	67,057	57,905	238,418	113,179
8	373,307	3,644,771	133,065	71,464	61,602	288,159	111,344
9	398,550	3,933,723	144,811	75,171	69,640	331,862	113,343
10	419,327	4,235,492	154,882	78,499	76,383	368,141	112,662

YEAR	EXPENSES			
	AGENT DEVELOP-MENT	SALES ASSIST-ANCE	ADMINIS-TRATION	MAINTENANCE
1-4	$17,361	$11,574	$ 5,787	$ 5,787
5	21,663	14,442	7,221	7,221
6	26,244	17,496	8,748	8,748
7	28,737	19,158	9,579	9,579
8	30,627	20,418	10,209	10,209
9	32,214	21,476	10,738	10,738
10	33,642	22,428	11,214	11,214

FIG. 6

operated by a set of control cards. The output desired is year-by-year estimates of the chief items in a company's statement of operations. Figure 8 shows the inputs to the model and its outputs.

The model begins by applying survival and production-growth rates to the current sales force and the simulated recruits to generate an estimate of the company's future expected sales. When the total annual expected sales are determined, they are distributed to a mix of insurance plans and added to the in force. (The company's current policy, premium, and volume in force will have been read into the computer and allocated to the mix of business prevailing among different policy durations, policyholder age groups, and plans of insurance before any estimates are added.)

AGENCY FINANCIAL MODEL

DEPTH OF ANALYSIS: INCOME EXPENSE NET INCOME VESTED EQUITIES PROFIT	OPERATING FACTORS: MANPOWER IN FORCE COSTS COMPENSATION GROWTH PERSISTENCY TERMINATION
DETAIL OF ANALYSIS: MIX OF PLANS AGENT EXPERIENCE LEVELS POLICY DURATION INDIVIDUAL POLICIES INDIVIDUAL AGENTS	SCOPE IN TIME: PAST PRESENT FUTURE

FIG. 7

COMPANY SYSTEM MODEL
INPUTS AND OUTPUTS

INPUTS	OUTPUTS

IN FORCE
AVERAGE POLICY SIZE
MIX OF SALES
PLAN DURATION SPECIFIC RATES:
  SURRENDER
  COMMISSION
  CASH SURRENDER
  RESERVE VALUATION
AGENTS:
  SURVIVAL RATE
  AVG. PRODUCTION
TAX RATES
GENERAL OVERHEAD COSTS & TRENDS
MIX OF INVESTMENTS
NEW MONEY INTEREST RATES
DIVIDEND FORMULA
	ALL ELEMENTS OF:
	  INFORCE
	  INCOME
	  EXPENSE
	BENEFITS TO POLICYHOLDERS
	LIABILITIES & CONTINGENCY FUNDS
	DIVIDENDS
	TEN AND TWENTY YEAR NET COSTS

FIG. 8

The policy, premium, and volume in force are updated in simulated time by applying mortality, maturity, expiry, and surrender rates to them, "aging" all policies one year in duration, and adding the sales of the current year.

Estimation of company premium and investment income is accomplished in the first stage of the model. Premium income has a relatively stable and homogeneous pattern since it is largely determined by the expected future (premium-paying) in force. Investment income (interest, dividends, capital gains, etc.) is less stable and less homogeneous. It is determined by distributing company assets to specified schedules of investments subdivided by type, earnings rate, and maturity dates. The current year's investments are read into the computer by schedule. In a similar way, the investment of future expected investable funds can be allocated to various types of investments and investment results and simulated subject to specified yields and maturity dates.

The model develops assets at the end of the year as the net of assets at the beginning of the year plus income less expenses less benefits to policyholders. Reserve liabilities are calculated by applying valuation rates to the volume in force, and surplus is calculated as the difference between assets and reserve (and other) liabilities. Figure 9 shows the general flow chart of the model.

The logic system of the model is illustrated by the following operations. The summations refer to operations on the schedules, and the indices refer to the individual cells of the schedules. Let

AGT_x^i = number of agents at length of service x in calendar year i;

$\quad l_x$ = expected agent-termination rates at length of service x;

$\quad r_x$ = expected sales-growth rates at length of service x;

POL_x^i = policy sales in year i, for agents at length of service x;

REC^i = recruits in year i;

$POLR$ = average recruits' first-year policy sales.

Then, for $x = 0$,

$$AGT_0^i = REC^i .$$

For $x = 1, 2, \ldots,$

$$AGT_x^i = AGT_{x-1}^{i-1} \cdot (1 - l_x) .$$

Total agents =

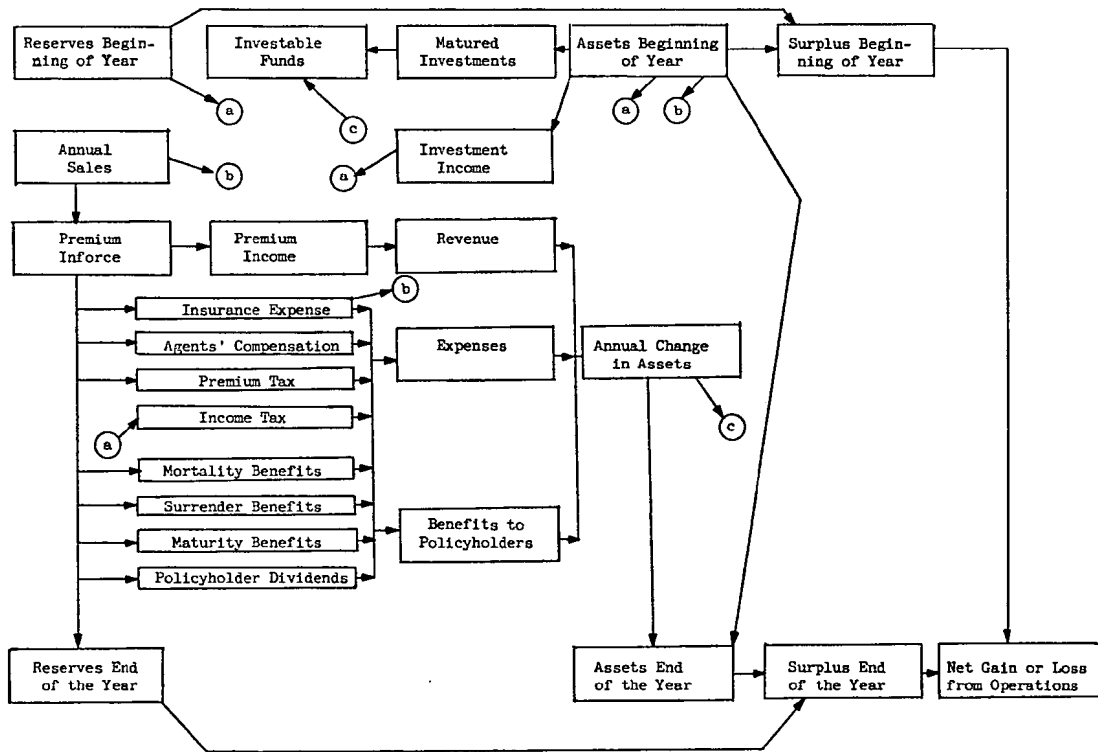$$AGT^i = \sum_{x=0}^{\infty} AGT_x^i .$$

FIG. 9

For $x = 0$,

$$POL_0^i = REC^i \cdot (POLR) \ .$$

For $x = 1, 2, \ldots$,

$$POL_x^i = POL_{x-1}^{i-1} \cdot (1 - t_x) \cdot (1 + r_x) \ .$$

Total policies sold $=$

$$POL^i = \sum_{x=0}^{\infty} POL_x^i \ .$$

Let

PER_h = percentage of sales allocated to plan h;

$VOLA_h$ = average size of policies sold for plan h;

$PREMT_h$ = premium per thousand for plan h.

Then the policies, premium, and volume issue are developed in the policy-mix routine. Let

POL_h^{oi} = issue policies under plan h;

VOL_h^{oi} = issue volume under plan h;

$PREM_h^{oi}$ = issue premium under plan h;

then,

$POL_h^{oi} = POL^{oi}(PER_h)$;

$VOL_h^{oi} = VOLA_h^{oi}(POL_h^i)$;

$PREM_h^{oi} = VOL_h^{oi}(PREMT_h)/1{,}000$.

Let the total plan-duration-specific policy termination rates on plan h at policy duration j be denoted by p_h^j. The p_h^j is derived from the sum of its component surrender, claim, expiry, and maturity rates, which are read into the computer for each plan and policy duration:

$$p_h^j = s_h^j + c_h^j + e_h^j + m_h^j \ .$$

Future improvements expected in mortality rates can be simulated by reading in values of c_h^{ij} for a specified year r years in the future. The model will then calculate

$$c_h^{ij} = c_h^{oj}(c_h^{rj}/c_h^{oj})^{i/r} \ ,$$

to simulate a gradually improving mortality pattern for each year i in simulated time.

All the rates and factors in the model may be easily changed. Sets of alternative rates can be developed for a simulation study so the model will

read in those needed for successive runs without the need for recompiling the program. Moreover, all the rates and factors can be calibrated or modified by algorithmic operations. For example, the surrender rates can be modified by a function of the type

$$s_h^i = as_h^i + b \ ,$$

which would direct the computer to change each surrender rate by multiplying it by a and adding b to the result. Such devices are useful to demonstrate the expected effects of changes in performance or in simulating the higher expected turnover of low-producing agents or the higher expected policy-lapse rates on recruits' business.

Policies in force at duration j and plan h are read into the computer in the initial year. In subsequent years, they are calculated from the policies in force of the previous year times the termination rate, and the new issue policies are added to complete the in-force schedule.

For $j = 0$,

$$POL_h^{oi} = POL_h^i \ .$$

For $j = 1, 2, \ldots ,$

$$POL_h^{ji} = POL_h^{j-1, \ i-1} \cdot (1 - p_h) \ .$$

Premium and volume in force are developed in a similar manner. From the in-force data, about 90 per cent of the important financial flows in a mutual company can be calculated directly.

The model produces detailed data for each year simulated. Summaries, graphs, present values, operating ratios, and earnings rates are also developed to provide estimated measures useful in gauging a company's effectiveness over time. As an analytical tool to disclose the nature of the operating system, and as an alternative to living through a change in operating policies in order to discover what will happen, the model has its highest value.

Data systems, in the form of policy-duration-specific rates of various kinds, agent termination, growth, and expense, are moderate requirements in comparison with the agency model previously described. Figure 10 shows the expense data system used with the model at the Northwestern Mutual. Studies using the model are set up on the form shown in Figure 11. "Calibration factors" refer simply to multipliers that are applied to the stated rates.

A COMPANY-FIELD SYSTEM FOR LONG-RANGE PLANNING

A useful conceptual form can be constructed by connecting the previously described agency and company models to give an interacting
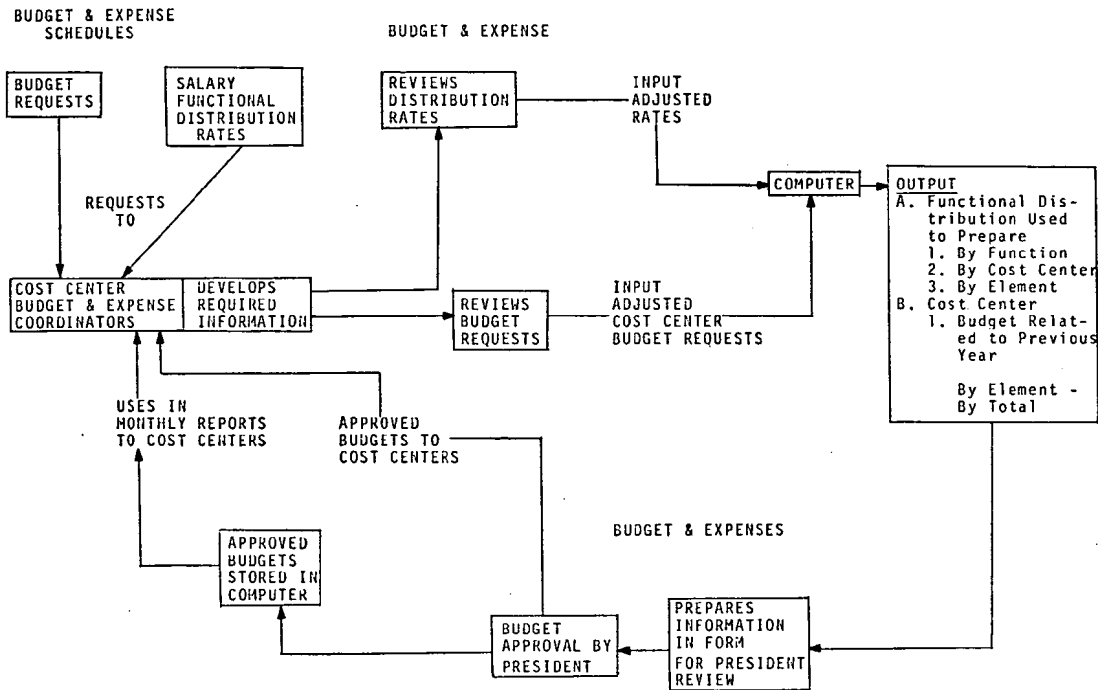
FLOW CHART - NML'S BUDGET AND EXPENSE SYSTEM

BUDGET & EXPENSE
SCHEDULES

BUDGET & EXPENSE

```
┌──────────┐    ┌──────────────┐         ┌──────────────┐      INPUT
│ BUDGET   │    │ SALARY       │         │ REVIEWS      │      ADJUSTED
│ REQUESTS │    │ FUNCTIONAL   │         │ DISTRIBUTION │      RATES
└──────────┘    │ DISTRIBUTION │         │ RATES        │
                │ RATES        │         └──────────────┘
                └──────────────┘
```

REQUESTS
TO

```
┌──────────────┬──────────────┐         ┌──────────────┐      INPUT
│ COST CENTER  │ DEVELOPS     │         │ REVIEWS      │      ADJUSTED
│ BUDGET &     │ REQUIRED     │         │ BUDGET       │      COST CENTER
│ EXPENSE      │ INFORMATION  │         │ REQUESTS     │      BUDGET REQUESTS
│ COORDINATORS │              │         └──────────────┘
└──────────────┴──────────────┘
```

```
                    ┌──────────┐   ┌──────────────────────┐
                    │ COMPUTER │   │ OUTPUT               │
                    └──────────┘   │ A. Functional Dis-   │
                                   │    tribution Used    │
                                   │    to Prepare        │
                                   │    1. By Function    │
                                   │    2. By Cost Center │
                                   │    3. By Element     │
                                   │ B. Cost Center       │
                                   │    1. Budget Relat-  │
                                   │       ed to Previous │
                                   │       Year           │
                                   │                      │
                                   │    By Element -      │
                                   │    By Total          │
                                   └──────────────────────┘
```

USES IN
MONTHLY REPORTS
TO COST CENTERS

APPROVED
BUDGETS TO
COST CENTERS

BUDGET & EXPENSES

```
┌──────────┐           ┌──────────┐   ┌──────────────┐
│ APPROVED │           │ BUDGET   │   │ PREPARES     │
│ BUDGETS  │           │ APPROVAL │   │ INFORMATION  │
│ STORED IN│           │ BY       │   │ IN FORM      │
│ COMPUTER │           │ PRESIDENT│   │ FOR PRESIDENT│
└──────────┘           └──────────┘   │ REVIEW       │
                                      └──────────────┘
```

FIG. 10

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COMPANY SIMULATION WORKSHEET

DATE_____

TIME REQUESTED_____   ANALYST_____

PURPOSE OF SIMULATION_____

CALIBRATION FACTORS

	ARRAY	NO. OF ARRAY	CALI-BRATION	CODE
1.	POLICIES INFORCE BEGINNING	_____	_____	___
2.	PREMIUM EARNED BEGINNING	_____	_____	___
3.	VOLUME INFORCE BEGINNING	_____	_____	___
10.	CASH SURRENDER FACTOR	_____	_____	___
12.	COMMISSION FACTOR	_____	_____	___
13.	DIVIDEND FACTOR	_____	_____	___
14.	PREMIUM TAX FACTOR	_____	_____	___
16.	PREMIUM CHANGE RATE	_____	_____	___
21.	RESERVE VALUATION FACTOR	_____	_____	___
22.	TERMINAL DIVIDEND FACTOR	_____	_____	___
29.	POLICY CLAIM RATE	_____	_____	___
30.	POLICY SURRENDER RATE	_____	_____	___
31.	POLICY MATURITY RATE	_____	_____	___
32.	POLICY EXPIRY RATE	_____	_____	___
70.	POLICY EXPENSE FACTOR	_____	_____	___
71.	PREMIUM EXPENSE FACTOR	_____	_____	___
72.	VOLUME EXPENSE FACTOR	_____	_____	___
73.	FLAT EXPENSE FACTOR	_____	_____	___

CONTROL CARD 1

STUDY NUMBER	___
INITIAL YEAR	___
LENGTH OF STUDY	___
DURATION OF POLICY	___
INITIAL PREMIUM PER POLICY	___
INITIAL VOLUME PER POLICY	___
ANNUAL PERCENTAGE INCREASE IN SIZE OF POLICY	___
RATE OF INFLATION OF FLAT EXPENSES	___
DISCOUNT RATE FOR SURPLUS	___
RATIO OF SURPLUS TO RESERVES	___
VARIABLE DIVIDEND SUBROUTINE	___

CONTROL CARD 2

NUMBER OF RECRUITS YEARLY	___
ANNUAL INCREASE IN NUMBER OF RECRUITS	___
RECRUIT INITIAL SALES	___
INITIAL NUMBER OF AGENTS CALIBRATION	___
INITIAL NUMBER OF POLICIES SOLD CALIBRATION	___
AGENT TERMINATION CALIBRATION	___
AGENT PRODUCTIVITY GROWTH CALIBRATION	___
DETAIL PRINTOUT	___

RESULTS_____

COMMENTS_____

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FIG. 11

home-office–field system. By using the agency model as a generator of input for the company model, a simulator with unusual capabilities can be formed. The interplay between the home office and the field can be replicated for a variety of financial flows. It becomes possible to test the mutual compatibility of the operations of the two systems. (Is what is good for General Motors really good for the country?) Among the questions that the model can clarify are the following: What is the value of resources invested in the field as compared, for example, with Baa bonds? What kinds of agencies fulfill the company's goals? What kind of compensation system stimulates the activities that are consistent with company goals? When we are "weighed and found wanting" in terms of company-field equilibrium, what kinds of changes will restore equilibrium?

CONCLUDING REMARKS

The analytical tools described herein rely primarily upon actuarial mathematics and methods. They might serve as prototypes for any company in the country. Where the data systems—the ugly part of system modeling—are not available, they can be developed. No one should, however, underestimate the lead time required to prepare a model that will resolve perplexing problems. Models are notoriously slow bearers of fruit; indeed, the future has been known to arrive before a long-range-planning model was fitted out to grapple with it! But the value of a simulation model is high in proportion to the resources required to build it. Merely to have an alternative other than living through a policy change in order to discover its effects is invaluable.

It is not easy to get a fair hearing for a model from the company helm. Ideally, some crisis in decision-making must arise in which conventional commiseration of old hands with one another fails to resolve a problem. The cause of simulation can be served if the model is thrown into the breach, then proceeds to clarify issues and select a problem-solving strategy that would not otherwise have occurred to anyone. Failing the convenient occurrence of a spontaneous decision crisis, it may, in the interest of science, be necessary to provoke one.

In time the insurance industry will have alternatives to its usual tired response to problems. The cost-price squeeze, rather than leading us to seek refuge under New York Section 213, will find us simulating the distribution system to test the leverage of cost control, product change, and compensation change on expenses. We will meet the competition of other financial intermediaries for savings dollars not by political lobbying for higher interest rates or competitive advertising but by testing costs and benefits of, for example, an equities-investment service for policy-

holders. Our inability to retain manpower will be met not by pressing for liberalization of new agent-financing plans but by probing the nature of the agent-survival problem—studying the relative influence of agency management, market, and psychological factors on agent success. There's a great day coming!

CHAIRMAN HILL: John, I am sure that I speak for everybody in the room when I say thank you from the bottom of our hearts and from the top of our intellects for a most stimulating presentation. We enjoyed both the factual part of it and the conceptual part of it. Your sharing with us your view of the role of both actuaries and long-range planning in the management of a life insurance company will, I am sure, help us tremendously.

We are running a little behind time here. Those of you who wish to participate in part three of our program still have a few moments.

MR. WILLIAM H. BREEZE: Many circumstances in the past have caused life insurance companies to regard themselves as destined to react to their environment instead of influencing it—for example, the independent-contractor concept of the general agent. More recent circumstances, such as scarce sales manpower and increasing expenses, have emphasized the desirability of our being able to influence events. To influence events, one must plan.

Believing that planning must become an integral part of our future way of life, we began a formal corporate planning program in mid-1965 at Ohio National. We visualized the task as consisting of two parts—establishing long-term objectives and strategies and developing the shorter-range year-to-year process. We started with the short-term program to get the maximum number of managers involved without delay and have now begun the long-term effort.

Planning is applying prospectively the knowledge of how efforts produce results so as to maximize the results. The sequence is to deduce the results desired and the time therefor, followed by the course of action to bring them about. This framework applies regardless of the time period of the planning or the size of the organizational unit. But generally the longer the time span the larger the organizational unit should be.

The efforts-results relationship referred to is far less precise than the statement implies. It is arrived at by analysis of ourselves, our competition, of other external forces, and by predictions about the future environment. Planning in subdivisions of the organization is aimed at the accomplishment of the organization's goals, so that the goals of the largest

organizational unit are the final end product of the planning in all sub-divisions.

Adoption of a formal planning program requires facing up to some things that we would prefer not to. For every important activity, the relationship between the results to be achieved and the effort invested must be considered and quantified, at least approximately. Most of us think more often about how we perform our work than how it relates to the desired result, so it is difficult to derive such quantified statements, or "measures of performance." In fact, just identifying what results are effected by some activities traditionally considered significant may be difficult.

Providing information on these indicators of performance is a major task for companies whose systems are structured around producing the annual statement. One of the first major new activities identified was the determination of requirements for a corporate-wide information system which, for planning data alone, will be a very substantial project.

We rely heavily on specialists such as actuaries, underwriters, and investment analysts. The discipline of the planning process forces us to think in terms of total company results. It also points the way toward achieving it.

Although most managers have planned informally, the formal planning focus on improving performance requires thinking in advance about the precise future steps to be taken to achieve specific objectives. This is new and is difficult to do well. It seems that the reward for doing this kind of analysis in developing major plans will be that day-to-day managing will be more meaningful and efficient and involve less lost motion.

The preceding has to do mostly with planning at the level of functional managers. The pressures to set objectives and to develop action programs at the company level are even stronger. Doing this on a one-year basis (before a long-term plan has developed) has indicated the desirability of having a longer-term plan, so that many one-year objectives are steps toward longer-term goals.

The kinds of analytical thinking that we have been doing lead us to conclude that our future decisions will be based on better facts and better-informed judgment. A significant collateral result of this program is bound to be a more-efficient organizational framework.

These comments have been grounded in appearances and impressions, but we believe that they will be supported by facts and demonstrations. Learning how to live with a formal planning program after years without one is not rapidly accomplished.

These are the benefits we expect, ultimately, to realize:

1. Better performance of people, because of closer identification of personal and corporate goals.
2. Improved capability to influence, rather than react to, our environment.
3. Clearer statement of results to be achieved from all significant activities.
4. Management information that facilitates development of well-conceived objectives.
5. Reduced functional compartmentalization.
6. Better decision-making.
7. More efficient organization.
8. Better ways to measure "people performance."

MR. JOHN W. PADDON: One tool that can be effectively used in planning is the outside research consulting firm. At Western Life, we had the North Star Research Association of Minneapolis make a survey of 162 insurance companies to find (*a*) to what extent each company is marketing insurance products involving equities (variable annuities, separate accounts, and mutual fund shares); (*b*) how much each company plans to utilize these products in the future; and (*c*) the feelings of each company on how important a role such products will play during the next ten years.

It was found that about half of the 162 participating companies are presently selling one or more of these equity products or else plan to do so within the next ten years. About 18 per cent sell or are considering the sale of variable annuities; 16 per cent, mutual fund shares; and 26 per cent, separate accounts.

This approach to long-range planning can be very helpful when one or more of the following conditions are present:

1. The desired information is either not readily available in published form or otherwise, or else must be solicited directly from the top management of a great many companies for it to be meaningful.
2. The company is not large enough to have available, or be able to hire, full-time personnel needed to set up and administer an extensive intercompany survey.
3. The company may need to conduct studies of this nature only on a one-time or occasional basis.

This method of gathering information was of great value in our own long-range thinking on equity-based products.

RECENT DEVELOPMENTS IN HEALTH INSURANCE PROGRAMS IN THE UNITED STATES AND CANADA

MR. C. MANTON EDDY presented the report on United States Medicare that he had previously presented at the San Francisco and Washington Regional Meetings, reported in *TSA*, XVIII, D1.

MR. MICHAEL B. HUTCHISON presented the report on recent developments in Canada in the field of health insurance previously presented at the San Francisco Regional Meeting by George N. Watson and reported in *TSA*, XVIII, D2.

IMPLICATIONS OF TITLE XIX OF THE 1965 SOCIAL SECURITY AMENDMENTS FOR THE PRIVATE HEALTH INSURANCE BUSINESS

The panel will present a summary of the provisions of Title XIX and of existing or proposed state legislative implementation of Title XIX.

There will follow a discussion of the need for private health insurers to re-examine their plan designs, contractual provisions, underwriting rules, and marketing techniques in the light of Title XIX implications.

CHAIRMAN RICHARD H. HOFFMAN: Before introducing the panel, I am going to make a few remarks about some of the background of Title XIX. I think that the reports of the previous two speakers provided us with a good backdrop for going into this area.

You probably wonder why Title XIX has suddenly occupied so much attention recently. Well, our panel will endeavor to answer this question and, even more importantly, discuss means to improve our health insurance products so as to keep to a minimum the necessity for implementing Title XIX. Hopefully, after this, we will have time for questions.

In 1965, as you probably all know, certain amendments to the Social Security Act were passed. This was known as Public Law 89-97 and contained three major sections.

The first of these is an area with which we are all familiar—increased old age and survivor benefits.

The second is another familiar area, Title XVIII—commonly known as Medicare—and provides benefits for some 18 million senior citizens.

The third section, Section XIX, is an expansion of existing federal welfare programs; it is sometimes called a "sleeping giant," because it is the least known and has been estimated to have a potential effect of furnishing health benefits of much broader scope than Medicare to at least some 36 million persons.

Now, before discussing Title XIX, I think that it would be helpful to describe briefly the related federal welfare programs which existed before Title XIX was passed.

Federal funds were available to states to help pay health costs of persons receiving aid under certain programs. These programs were the old age assistance program, aid to families with dependent children, aid to the blind, and aid to the permanently and totally disabled. This word "aid" in effect means a subsistence allowance. As a result, persons receiving such allowances could have health care costs reimbursed.

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The provisions and the formula for federal matching funds varied for each of the four programs that I mentioned. Under Title XIX, the states will establish a single Medicare program with a single matching formula. Furthermore, there is no limit on the total amount of federal sharing, but the Department of Health, Education, and Welfare must approve each state's program. The federal sharing will vary between 50 and 80 per cent of the cost, depending upon the state's average per capita income.

Title XIX places no upper limit on the scope or types of medical benefits. However, the state plans must include inpatient and outpatient hospital care, physician services, skilled nursing-home care for adults, and laboratory and X-ray services. They must also pay the Part A and Part B medical deductible and coinsurance for persons over sixty-five who are recipients of assistance payments, and the state must also pay their Part B premiums.

Even more important, the legislation sets forth future goals on coverage eligibility and the provision of services. Title XIX gives the states a period of time to enter into the program. Beginning on January 1, 1970, the law will not permit states which do not have an approved medical assistance program under Title XIX to continue to receive federal sharing in the cost of the previously described programs.

By July 1, 1975, the states must have broadened their programs so that they will have coverage for all persons who are medically needy or indigent in their states, in accordance with the state's standards, which, under the provisions of the law, must also be broadened and liberalized by the state. The range of services offered is also expected, by the 1975 date, to be broadened beyond those now required and to cover all those needed by the people in the states. Thus Title XIX forces the expansion of existing programs immediately and further expansion in the future. Putting it another way, services must be provided not only to the indigent but to those who are classified as medically indigent.

It is relatively easy to define "indigent." It means one who lacks sufficient income and resources to secure an objectively defined minimum standard of living.

However, in defining "medically indigent," it is also necessary to take into account the cost of the needed medical care, which care is unpredictable. A person may be able to meet the minimum standards of living, unless he has medical expenses. If they are high enough, he becomes medically indigent. Thus, no matter how high the income, anyone could in theory become medically indigent. It is up to the states to set the definition as to what constitutes medical indigency.

A further point under Title XIX is that the responsibility of relatives

has been altered rather drastically. In the future, the term "responsible relative" is limited to a spouse or a parent of a minor child.

When President Johnson announced the start of this medical assistance program, Title XIX, he said, "We are learning to think of good health not as a privilege for the few but as a basic right for all."

We will now hear how some of the states have already implemented Title XIX. I would like to introduce to you at this time Mr. Paul E. Singer, actuary, Continental Casualty Company, who has kindly consented to discuss this subject with us.

MR. PAUL E. SINGER: Within the first few months after the enactment of Public Law 89-97, it became apparent that implementation of Title XIX by the states would come swiftly. As early as September 23, 1965, the Department of Health, Education, and Welfare was able to publish a compilation of the intentions of the various states which indicated that as many as twenty-five jurisdictions could be expected to implement Title XIX during 1966, with ten of these looking to an effective date of January 1. The complete compilation for fifty states and four other jurisdictions indicated twenty-two probable and three possible implementations during 1966; twelve other jurisdictions had shown interest, although they had as yet taken no firm action, and in only seventeen jurisdictions was it expected that implementation would be delayed until 1967. This timetable was in strong contrast with the pattern of implementation of Kerr-Mills by the states. You undoubtedly all recall that one of the criticisms of the Kerr-Mills program by the advocates of Medicare legislation was that so many states had acted too slowly or in too limited a scale on their implementation of the program.

The contrast is not at all surprising when one considers the differences in circumstances and in the provisions of the law between the two cases. To begin with, Kerr-Mills was an entirely new program for most of the states, and it posed all the legislative, fiscal, and administrative problems of setting up an entirely new welfare mechanism. Title XIX begins with a consolidation and broadening of a whole series of welfare programs already in existence. Even more significant, however, is the fact that Title XIX, by comparison with the almost invitational character of Kerr-Mills, has an imperative quality which virtually compels implementation and encourages it at the earliest possible date. The absolute deadline of implementation by 1970, under penalty of the withdrawal of all federal matching funds for medical expenditures after that date, and the mandate for the development of a comprehensive program by 1975 both constitute significant pressures toward early action by the states. Finally, the fed-

eral government's increased financial participation in the program—now pegged at from 50 per cent to 83 per cent of the total cost, depending upon the state's per capita income—is, of course, a very strong inducement.

The implications of Title XIX, both for existing programs and for future planning, have required many decisions at the state and local levels during the past several months. The complexity of these can be illustrated by reviewing the deliberations of one state department of public aid in its planning for the implementation of Title XIX. In November, 1965, the Department of Public Aid of the state of Illinois submitted to the Legislative Advisory Committee on Public Assistance its recommendations for the implementation of Title XIX in Illinois. The informational material provided to the advisory committee illustrates many of the factors which a state welfare administration has to take into consideration in the formulation of a Title XIX program.

The first question, of course, was whether or not to implement Title XIX in the state at all; this required relatively little consideration. As the Director of Public Aid pointed out, any decision not to adopt a Title XIX program would have two undesirable results: First, the state's AMIA program (its Kerr-Mills program) could no longer be continued under federal law unless the same range of services was made available with the same eligibility standards to all medical indigents who are "categorically related." In other words, aid to the medically indigent aged could no longer be continued with federal assistance unless similar provisions were made for the medically indigent blind, disabled, and families with dependent children. Second, failure to enact a Title XIX program by 1970 would deprive the state of any federal matching funds for medical expenses, as I mentioned previously.

Apparently the director believed that the first result—withdrawal of federal funds for AMIA—would occur *before* 1970. If so, this was a misconception, possibly based on a provision of H.R. 6775, which was amended in conference. Nevertheless, he made the point, and the force of the two considerations is perfectly obvious. Once they had been stated, there was little doubt that Illinois would choose to implement Title XIX.

The next question obviously was the scope of any Title XIX program that might be considered. Two extreme possibilities were briefly discussed. (1) As a minimum, it would be possible to limit the Title XIX program to persons receiving cash grants for basic maintenance. Such a program, if it provided uniform benefits and eligibility requirements for all recipients of aid, would be admissible under Title XIX. Unfortunately, it would imply discontinuance for the program for the medically indigent aged. (2) At the other extreme, the state could consider a Title XIX pro-

gram embracing all medically indigent persons in addition to all recipients of cash grants. From the point of view of the state, this would make available federal matching funds for medical care for all the "categorically related" groups who were then receiving their benefits entirely from local and state funds. However, it would impose two considerable burdens on the state budget—first, by bringing in a large number of medically indigent adults for whom no federal matching funds were available; second, by transferring to the state many costs then being met entirely from local resources.

The department's recommendation was for a middle course that would include in the Title XIX program only cash grant recipients and medical indigents who are "categorically related." This approach had the advantage of reducing somewhat the responsibility of local governmental units for the medical indigents but at the same time placing a reasonable limit on the increase in expenditures by the state Department of Public Aid. It was this approach that was adopted and ultimately implemented in Illinois.

Some of the detailed considerations in the development of the Illinois program shed additional light on the impact of federal matching funds on state planning. For example, there is a so-called pass-on provision which limits the amount of additional federal money available to any state. This has the effect of requiring that the state increase its total expenditures for public assistance by at least the amount of the increased federal participation. In the case of Illinois, the anticipated expenditures in early 1966 were up considerably above the base level of fiscal year 1964 due to substantial improvements in the benefit program during the intervening two years. As a result, Illinois could anticipate that it would be eligible to receive the full amount of additional funds available to it under the provisions of Title XIX, at least for the first two quarters of 1966.

Beginning with July of 1966, the situation becomes more complicated: on July 1, the Medicare provisions of Title XVIII become effective, with the probable result that Illinois's expenditures for medical care for the aged will be reduced about $3 million per calendar quarter. Thus, the provision of federal benefits under Title XVIII automatically reduces the benefits which Illinois would otherwise have distributed under the OAA and AMIA programs. Unless other program changes are made to restore the state's expenditures to the previous level, Illinois faces the prospect of forfeiting nearly $4 million a year of federal matching funds. As it turned out, previously planned improvements in the state's welfare programs more than made up the anticipated reduction, and the full amount

of federal participation could be obtained under the proposed Title XIX program. Whether or not complete utilization of all available federal money is a proper consideration in the design of a welfare program, it cannot be denied that the mere availability of the funds is almost certain to influence the state's planning activities.

Against this background of the inducements and compulsions embodied in Title XIX, the rapid rate of implementation by the states seems only natural, and each week brings news of additional state programs. When Joseph Crimmins participated in this same panel discussion in Washington a month ago, he reported that seven jurisdictions had implemented Title XIX programs by the end of the first quarter of 1966. As of today, I believe the count has reached nine, with programs in force or approved in California, Hawaii, Illinois, Minnesota, North Dakota, Ohio, Oklahoma, Pennsylvania, and Puerto Rico. As all of you know, a Title XIX program is being considered for approval in New York; this plan will be discussed in some detail by Walter Shur. HEW now estimates that at least twenty other states hope to begin programs in 1966; of the remaining twenty-five states and territories, five could conceivably implement programs this year if enabling legislation is passed, and the remaining twenty presumably would not be far behind.

As might be expected, the first nine plans approved for implementation by HEW have many common characteristics. Although there are some variations from state to state, all blanket in the four existing categories of public assistance: old age assistance, aid to the blind, aid to families with dependent children, and aid to the permanently and totally disabled. In addition, I believe all provide for the inclusion of certain classes of medically indigent children up to the age of 21. Eight of the plans cover the so-called categorically related persons who meet all but the income requirements of the various assistance programs; this provision includes the beneficiaries of the present MAA programs. This last group represents a portion—in most states probably a small portion—of the medically indigent population. Only three jurisdictions approved to date—Hawaii, Pennsylvania, and Puerto Rico—include other adults between 21 and 64 who are medically indigent.

The costs for this last group will have to be paid entirely from state and local funds, in each case. Federal contributions are available only for the standard categories of public assistance recipients and those qualified for these categories except by the income test. The Ohio program is unique among those approved to date in that it covers *only* public assistance recipients, with no provision for the "categorically related" medical indigents. Since Ohio had no Kerr-Mills program, this does not represent a curtailment of existing programs.

In terms of benefits, there is substantial variation. By and large, all nine programs provide or will provide by July 1, 1967, what are called the five basic services: inpatient hospital care, outpatient hospital care, physicians' services, nursing-home services for adults, and lab and X-ray services. In the California and Pennsylvania programs, this basic standard is provided for the four public assistance categories, but more restricted benefits are available for the medically indigent. Many of the states provide other medical services in addition to the basic five, ranging all the way from some minor additional benefits to the virtually unrestricted program provided in Minnesota. HEW has described the Minnesota program in its fact sheet as covering "whatever the doctor orders." Any of the programs which fall short in any way of the five basic services will have to be broadened to continue to qualify, and, indeed, we can look for all of them to be enlarged to provide comprehensive medical care by 1975.

The possibilities of further expansion of these programs lie in two directions—first, the provision of more comprehensive benefits for the present recipients and, second, the broadening of the eligibility group to include a greater portion of the population. Even states like Hawaii and Pennsylvania, which have already included the medically indigent in general, might achieve further expansion by changing the eligibility requirements as to income and assets.

Among the plans approved so far, the variation in permitted "maintenance level" of income is not very large. The permissible income level for a single person ranges from $1,440 a year in Hawaii to $2,000 in California and Pennsylvania; for a family of four, the range runs from $2,448 in Oklahoma to $4,000 in Pennsylvania. It is in the possible upward revision of these income levels that the greatest possibility for expansion of the program lies. It is the establishment of this income level—the definition of "medical indigency"—that determines how many persons will be served by the program and what the total costs will be; so this point undoubtedly will provide some of the liveliest controversies in states which have yet to formulate their programs.

CHAIRMAN HOFFMAN: I should have mentioned that Paul is a Fellow of our brother organization, the Casualty Actuarial Society.

It has been estimated that the number of persons eligible under the programs of the states that Paul mentioned is from about 5 to 10 million at the present time. This excludes New York.

The Ways and Means Committee had estimated that Title XIX would produce additional cost to the federal government of $238 million. The programs already passed to date, excluding New York, have used up a

large proportion of this budget, and, with New York costs added, that figure will be substantially exceeded.

As Paul indicated, we will now receive a report relative to the New York situation, which has been changing almost hourly. This report will be given by Mr. Walter Shur, second vice-president and group actuary of the New York Life Insurance Company.

MR. WALTER SHUR: I would like to describe the New York plan as it is in the law that is on the books now, as it is in the public material that has been put out by the New York Welfare Department, as it is in the regulations that have been published by the Welfare Department, and on the basis of public statements made by Welfare Department officials.

This plan is actually in effect, in operation; applications are being accepted and people are entitled to benefits. As Paul implied, it has not yet been approved by the Department of Health, Education, and Welfare, but the plan is in effect in New York State.

I would like to start with a one-sentence summary of the New York plan. Under this new plan, almost half the population of the state will be entitled to have all their medical bills paid in full, and millions of others will be entitled to partial payment of their medical bills. That is about as short as I could get it. I am not sure that I need to say much more—but I will.

This plan is based on the concept that a certain portion of a family's net income is needed for basic maintenance—for food, clothing, shelter, haircuts, and so forth—and is not available for the payment of medical expenses. The Board of Social Welfare has determined that the amount of this exempt income for a family of four should be $6,000, and this amount applies uniformly throughout the state.

Savings up to one-half of the exempt income, or $3,000 in this case, are also exempt and therefore not available for the payment of medical expenses. Hence, any family of four, regardless of the size of its income or its savings, is eligible for medical assistance payments as soon as the family medical expenses are large enough to begin to force it to dip into the exempt income or savings.

There is really no concept of eligibility for the plan because everybody is eligible for the plan; everybody is covered. The only eligibility test is the question of eligibility for payment, which depends upon how far a family's medical expenses have pulled it down toward the exempt income or savings level.

This $6,000 exempt-income level for a family of four grades down to $2,900 for a single person, and it increases by $850 for each additional

person in a family of four. These amounts are further increased $850 for each additional wage-earner in the family. In other words, if the wife also works, then the exemption is higher.

The test of whether a family needs to dip into its exempt income or assets is made on a monthly basis for all medical expenses other than in-patient hospital expenses. As an example, take a family of four whose net income is $18,000. This family has $12,000 of excess income that it must use for medical expenses, which amounts to $1,000 of excess income per month. If that family had doctor bills of $1,500 in one month, it would have to pay the first thousand dollars and then the state would be responsible for the balance.

For hospital confinements of less than sixty days (and these are defined to be catastrophic confinements), the monthly test does not apply, and the family has to use up one-half of its annual excess income before the state assumes responsibility for the balance. For hospital confinements which go beyond sixty days, the family must use up all its excess income.

Certain types of assets are automatically exempt. These include the equity in a home, the cash value of the first $1,000 of life insurance on each person, an automobile, and other personal property. Thus, for example, a family of four with $6,000 of net income, and no assets, except perhaps $8,000 of equity in a home, would be entitled to have all its medical bills paid under the state plan. On the other hand, if the family lived in an apartment and had $8,000 cash in the bank, then it would have to pay its medical expenses.

I would now like to talk about the life insurance exemption, because it has been quite confusing. After I am finished, you may not understand the provision, but you will understand the confusion.

Apart from the basic exemptions—$6,000 of income and $3,000 of savings for a family of four—it is recognized that some funds are necessary for the burial of people and, therefore, the family is entitled to have as a further exemption $1,000 of burial reserves for each member. So, if there were no life insurance on anyone in the family, this family of four with an income of $6,000 could have as exempt cash in the bank a total of $7,000—the basic $3,000 exemption and then $1,000 for each person in the family as a burial reserve. If, let us say, one member of that family had a $1,000 term insurance policy on his life, that comes first and takes care of the burial problem and, therefore, the family could only have $6,000 of exempt savings in the bank. This would consist of the basic $3,000 and $1,000 for each of the three persons that did not have insurance.

Let me give you one other example to round this out. Suppose that the same family with an income of $6,000 contained one member who had

a $10,000 life insurance policy. The first thousand dollars of that is the exempt part of the coverage for the burial situation, and the cash value of that $1,000 (or the pro rata portion of the policy representing the cash value on that $1,000) is an exempt asset. However, the cash value of the balance of the policy, or 90 per cent of the total cash value, is an asset, like savings in the bank and, therefore, would have to be used if the family's total assets exceeded the exempt amount.

Well, at any rate, all of this is very difficult to explain. We feel very strongly that this whole concept should be dropped out of the program—the concept of the burial reserve and the life insurance cash values—that life insurance cash values should be treated as any other asset. In other words, we feel that there should be no special treatment in relation to life insurance.

I would now like to move on to the kinds of medical services covered under the New York plan; I think that the following quotation from the New York law itself is quite clear:

Medical assistance shall mean payment of part or all of the cost of care, services and supplies which are necessary to prevent, diagnose, correct or cure conditions in the person that cause acute suffering, endanger life, result in illness or infirmity, interfere with his capacity for normal activity, or threaten some significant handicap . . . . Such care, services, and supplies shall include, but not be limited to. . . .

The law then lists items such as services of qualified physicians, dentists, nurses, optometrists, podiatrists, and other related professional personnel. This list continues on through drugs, eyeglasses, dentures, and then ends with transportation to any place necessary to obtain these services.

Now, application for the benefits is quite simple and can be made by mail. It consists of a two-page form on which you indicate your income and your assets, stocks and bonds, and so forth. The regulations provide that one out of twenty of these applications will be investigated. If the application is accepted, and the income and the assets are both below exempt limits, an identification card will be issued. This is good for a period of six to twelve months. This card says, "Show this card to your doctor, druggist, dentist, and so forth."

The State Health Department now is in the process of negotiating new fee schedules and reimbursement schedules with doctors, dentists, druggists, hospitals, and other providers of service which will apply to medically indigent persons. Incidentally, someone coined a phrase with respect to these persons, calling them "Card Carrying Indigents." Under the previous programs, doctors were generally paid (outside New York City) on the basis of two-thirds of the workmen's compensation schedule. How-

ever, under the new program, the Welfare Department stated publicly that fees would be increased to be the same as the basis used for Title XVIII or Medicare, which, of course, will produce an increase in the general level of fees. I think that this basis probably will apply to hospital-reimbursement formulas as well.

I would like to address the remainder of my remarks to the cost of the program. The state estimates that these costs will involve the expenditure of some $532 million in the first year, such costs to be shared by federal, state, and local governments, and that these costs will increase slightly in the next few years. The federal government's share is estimated to be about 40 per cent of the total. This projection compares with an expenditure of $449 million under the previous program in effect in the state. The increase, as you can see, is from $449 million to $532 million. I might also indicate that the income-exemption limit under the previous program (which not too many people knew about) was $5,200 with respect to in-patient hospital charges and $4,700 with respect to other charges.

The estimate of $532 million appears to be based on the following official figures. Under the previous program, $5\frac{1}{2}$ million persons were eligible and came within the income-exemption limits, but only $1\frac{1}{2}$ million of these applied for and received benefits. Under the new program, 8 million persons will be eligible and come within the exemption limits, and it is estimated that 2 million of these persons will apply for and receive benefits. This suggests that the official cost evaluation of the program failed to recognize some very fundamental changes in the character of the program.

Principally, it ignores the large increase in participation that will result from the simplified procedure for making application, changes which eliminate the former responsibility of children for the medical expenses of their parents, the use of the identification cards as prior authorization of medical services, and the widespread publicity given to the program.

With respect to the publicity, the law requires that "every effort shall be made to promote maximum public awareness of the availability of . . . such assistance, and to facilitate the application for . . . such medical assistance."

Dick Hoffman's committee made a very careful evaluation of these costs and concluded that, in a short time, the costs would be about $1,600,000,000, compared to the state's estimate of $532 million. In support of this figure, it was independently estimated that the total 1965 expenditures in New York State for medical care and services of all kinds were about $2.5 billion for the 18 million population. It was also noted in this committee's report that the state of California, which enacted a Title XIX program covering only 2 million eligible persons, estimated

the total medical payments on behalf of those persons to be $582 million. This compares with New York State's estimate of $532 million for 8 million persons. These cost estimates are consistent with information that was presented by Albert Pike, vice-president and actuary of the Life Insurance Association of America, at public hearings held in Albany on May 24 before the Joint Legislative Committee on this subject.

The New York program contains little or no incentives for eligible individuals to retain their existing private health insurance coverage. To the extent that such individuals drop this coverage to take advantage of the New York plan, hundreds of millions of dollars of benefits could be shifted from the private sector to the public sector.

A large part of the cost of this New York program will be for the payment of a great many small medical bills for people who are above the usual public assistance level but who qualify under the new program as medical indigents. If such persons were to be responsible themselves for these small budgetable bills, then both the benefit costs and the administrative costs of this program could be greatly reduced. There would seem to be little quarrel with the propriety of the state providing assistance to people of modest means who incur substantial medical expenses not covered by insurance, but there does not seem to be any necessity for the state to pay the routine normal bills for such a large segment of the population.

In conclusion, I would say that a program of this magnitude is so far reaching that it deserves full public hearings and discussion before it is implemented and very careful determination and consideration of the costs involved. A program which pays every dollar of the medical and dental expenses of nearly half the population of New York State seems to go far beyond the objectives of the federal Title XIX program.

CHAIRMAN HOFFMAN: Possibly you may have read some of the recent newspaper articles about the New York situation. Many proposals have come forth to alter the New York bill.

One of the proposals is to introduce a deductible on the order of 2 per cent of the family's income, which will reduce the number of small bills and help solve some of the state's administrative problems. A second proposal is designed to preserve the health insurance that is already in force in the state, thereby prohibiting the exclusion from a group plan of persons eligible for Title XIX benefits.

Now that we have heard about Title XIX, John Angle, vice-president and actuary of the Woodman Accident and Life, is going to give us some suggestions for improvements in our health insurance products.

MR. JOHN C. ANGLE: I will discuss the need for private health insurers to re-examine plan design, contractual provisions, underwriting rules, and marketing techniques in the light of the impact of Title XIX. Those in the audience who have already put in a frantic and exhausting year adjusting to Title XVIII—the Medicare Act—may be discouraged to find that there is another title to be concerned about and an infinite number of unused Roman numerals that can follow XIX. Still, one can respond to the challenge of action when editorial writers comment that Title XIX has "made it logical for Congress to begin thinking seriously about the desirability of providing comprehensive health insurance for all Americans." The urgency of the situation is apparent.

Title XIX makes federal grants to each state for medical assistance programs to be supplemented by state and local funds. Part of the program provides medical assistance to the indigent or needy receiving money payments under public assistance programs usually administered at the county level. Except for a consolidation of programs, this is much as it has always been. The new dimension added by Title XIX is that medical assistance payments may go to persons who cannot qualify for welfare assistance but who may qualify for medical assistance payments. Thus a new distinction has appeared between the "indigent" and the "medically indigent."

We have lived with a limited, similar program under the Kerr-Mills Act, that saw each state establishing standards for medical indigency among the aged. As under Kerr-Mills, it may be difficult to tell in advance if a family is medically indigent, since qualification may depend upon the amount of medical expenses incurred by a family. Thus there will be variation from state to state in the standards for establishing medical indigency and uncertainty as to an individual's eligibility. We can say that at least Medicare is definite as to the persons to be covered and the benefits to be paid.

One can anticipate continued local pressure for liberalizing definitions of medical indigency, especially if certain segments of the population lack adequate private health insurance. The challenge, a good word under the circumstances, is one of finding ways to extend the coverage and effectiveness of private health insurance. The greater the success of private health insurers in adequately covering all persons possible, the less the likelihood of unwise or undue extensions of medical assistance under Title XIX. A job well done will mean fewer persons held to be medically indigent and eligible for assistance under Title XIX.

Testimony to the need for extensions of private health insurance appeared a few weeks ago in the final report of the National Commission

on Community Health Services. This report urged development or extension of health insurance to cover all persons employed, self-employed, and unemployed to eliminate financial barriers to medical care. The report encouraged all interested persons to pursue extension of coverage by all possible methods, including the appropriate use of public moneys.

How effective have been the efforts of private health insurers? To what extent can private health insurers seek to insure those not now covered? Certainly some of those not presently insured cannot afford private health insurance, others cannot obtain it because they are not insurable, and still others, such as the Mennonites, prefer not to be insured. But some concrete figures on the situation are available from a study of the potential market for extension of private health coverage prepared by the Comprehensive Coverage Subcommittee of the Health Insurance Association of America.

This study was directed at the civilian resident population of the United States under the age of 65 on July 1, 1965, a population of 173.8 million men, women, and children. Of these, 142 million were found to have private health insurance coverage and the remaining 31.8 million to be without coverage. Of the 31.8 million under 65 without coverage, 13.1 million were covered under public programs or were wards of the state. An enumeration of those in this class includes recipients of public assistance, inmates of institutions, dependents of military personnel, Indians, merchant seamen, migratory workers, and veterans eligible for government care. Another 1.3 million persons can be eliminated as potential insureds in that they do not want coverage. This class includes physicians, nurses, and members of certain religious groups.

This brings us down to 17.4 million persons with an assumed need and desire for private health insurance. Of these, 6.7 million are members of families with incomes of less than $3,000 a year, who presumably cannot afford private health insurance and are in my mind those who need medical assistance. Finally, we are left with 10.7 million uninsured persons presumably able to purchase private health insurance but now uninsured.

The marketing challenge is more than one of attempting to reach 10.7 million uninsured; we should also do something about the inadequately insured. We must find, persuade, and insure three categories of persons:

1. Persons now counted as insured under individual or group plans but for an inadequate level of benefits.
2. Persons who desire medical insurance but cannot obtain it because of underwriting rules or restrictions of a group plan or individual insurer.
3. Persons uninsured because they have not been asked to buy, because they have not been persuaded, or because their employer does not have a group plan.

The problem affects more than agency and field forces. Actuaries and underwriters will have to do some creative thinking if a way is to be found to reach many that have been held to be uninsurable. Of the three categories above, those inadequately insured can be most readily rescued from those potentially medically indigent by aggressive sales methods. This, in fact, is an opportunity rather than a challenge, and it has not taken long for Medicare to become a standard for judging the adequacy of a private health insurance program. Charts of Medicare benefits are appearing on every side.

As to persons unable to obtain medical insurance, actuaries will wish to explore relaxation or abandonment of many time-honored underwriting rules and restrictions. The exploration should include the following group of underwriting practices and contract provisions:

1. Group contract evidence of insurability requirements that may prevent some employees and dependents, such as entrants late in enrolling, from obtaining group coverage.
2. Group plan waiting-period requirements that can prevent a new employee from obtaining group insurance until he has completed a certain period of service.
3. Inadequate or nonexistent conversion and continuation of coverage provisions which may deprive persons between jobs of coverage.
4. Definitions of eligibility for children that exclude children below or above specified ages, even though they continue dependent upon an insured employee.
5. Restrictions or tightly drawn definitions of eligible classes which exclude certain classes of full-time employees from eligibility for coverage.
6. Clauses excluding pre-existing conditions.
7. Provisions terminating coverage on surviving dependents upon the death of an employee.

Some of these liberalizations could lead to antiselection or duplication of benefits. However, such consequences are best dealt with by use of a co-ordination of benefit provision to reduce or eliminate the financial consequences of overinsurance. It should also be mentioned that some group programs fail to cover a high percentage of eligible employees because the employer makes little or no contribution toward the cost of the plan. The value of employer contributions should be stressed.

Many of the above practices also are appearing in the individual health field. Here it may be more difficult to do much because of the greater possibility of adverse selection. In my own experience, a good deal of antiselection takes place in spite of the best underwriting, and it does no good to destroy a working mechanism in an attempt to extend coverage to a few more persons.

However, actuaries concerned with individual health insurance should stimulate a review of both contracts and underwriting rules to seek ways of broadening coverage and means of extending coverage to persons not now insured. Matters that should be reviewed include:

1. Insurability rules and requirements for purchase of standard insurance.
2. The possibility of providing full coverage at an appropriate extra premium for impaired risks while discontinuing use of impairment riders.
3. The exclusion of benefits for conditions pre-existing the date of issue of the policy. Under this heading would fall possible shortening of the time limits on certain defenses from the statutory limit of three years, the need for an initial 30-day waiting period during which contract not in force for sickness, and the value of probationary periods of 90 or 180 days before coverage is effective for hernia, hemorrhoids, or more serious conditions.
4. Age limits that exclude any persons not eligible for Medicare benefits.
5. Continued use of company option renewal clauses.
6. Techniques of offering coverage to persons not now able to obtain health insurance.

Of the three categories of persons constituting our marketing challenge, one group badly needing our creative thinking is that comprised of persons who have not purchased individual health insurance and are not eligible to enroll in a group plan. Occupations in this category include proprietors of small businesses, agricultural workers, household workers, and self-employed persons. Some have marginal incomes and may be aided by Title XIX. This is mostly a challenge for the individual salesman and his supervisors. Obviously, marketing techniques geared to reaching persons with above-average incomes and which in the life insurance field have brought about a trend to fewer sales per year by each full-time agent will not reach this market. Every workable technique should be explored. It is worth mentioning that the sell-by-mail insurers can reach and insure many persons who will never see a full-time agent.

We should continue to make creative use of deductible and coinsurance clauses to offer broad coverage at low cost, as adequacy of coverage will be important as a bulwark against extension of medical assistance. Limited contracts are of little value in avoiding medical indigency.

There is one final difficult area which is receiving further exploration. The problem is how to cover those who are, from an underwriting standpoint, uninsurable. A possible solution being studied is the creation of an assigned risk plan under which each insurer would agree to cover a certain number of the uninsurable. To this end, a small committee has been appointed by the Health Association of America to explore the feasibility of an assigned risk plan or some other approach to the insuring of the

uninsurable. The chairman of this committee is Richard Hoffman, who I hope will comment in greater detail on the matter. I understand his committee includes Mr. Edwin Bartleson as an individual health insurance expert, two men employed by casualty companies who are familiar with the assigned risk concept in automobile insurance, and Mr. Cecil White of Metropolitan's office in Ottawa, Canada, who is familiar with Canadian techniques, such as the Alberta plan for providing private health insurance to the uninsurable. These and others, it is hoped, will bring about constructive and valuable recommendations.