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BOOK REVIEWS AND NOTICES*

*M. E. Ogborn, *Equitable Assurances*, pp. 271, George Allen and Unwin, Ltd., London, 1962.

The Society for Equitable Assurances on Lives and Survivorships was established by a deed of settlement executed in London on Tuesday, September 7, 1762, and it can be said with considerable justification that scientific life insurance was born on that day. Cornelius Walford, the first historian of the Equitable, was convinced that, for more than a hundred years, the history of the Society had been the history of life assurance in the United Kingdom. The same awareness of the importance of the Equitable's history caused Mr. Ogborn, the Society's joint actuary, to describe his book as "The Story of Life Assurance in the Experience of the Equitable Life Assurance Society 1762–1962."

Men have always been preoccupied with "origins." Whether as individuals or members of social groups, we all feel the fascination of the past, the desire to trace our antecedents as far back as possible. It is, therefore, not altogether surprising to find that even the supposedly dry-as-dust actuaries may be capable of evincing some emotion when contemplating the beginnings of their profession. "Few actuaries," says J. H. Gunlake in his Foreword, "will be able to read unmoved the story of the first premium scale to be drawn up, the first valuation to be made, the first reversionary bonus to be allotted, the first surrender value to be calculated."

This does not mean, however, that the interest of this book is purely or even mainly antiquarian—that it represents merely a sentimental journey into the past. There are two reasons why the story told by Ogborn would be worth attention even without the Equitable's claim to chronological priority. The first is the lasting nature of the Equitable's contribution to the development of life insurance. The second stems from the dramatic impact of personalities and circumstances on the changing fortunes of the office.

The author does not claim that scientific life insurance was "invented" by the Equitable. In all probability this development would have taken place in Great Britain before the end of the eighteenth century even without Dodson, Price, and Morgan. In Ogborn's words: "It appears, then, that life assurance came when it did because the climate was favourable. England was prosperous; the mathematics of life contingencies was at hand; and there was an unsatisfied demand for the protection that life assurance can give." But it is equally true that the progress of life insurance would have been much slower and more painful without the Equitable's combination of scientific insight and hard common sense and its surprising ability to find, as if by instinct, not only the correct theoretical approach but also sound practical solutions for the great number of difficult problems arising in a completely new and complex field of business. Even more important was the Society's stubborn adherence to sound actuarial

* Books and other publications noted with an asterisk (*) may be borrowed from the library of the Society of Actuaries under the rules stated in the *Year Book*.

principles in the face of continuing attacks on surplus by shortsighted policyholders. To William Morgan's determination "to preserve inviolate whatever funds are needful for the fulfilment of contracts" we owe much more than the basic rules for the distribution of surplus and the British predilection for the uniform reversionary method of bonus distribution. His intellectual integrity and strength of character helped to create the tradition of prudent caution which remains the foundation of the life insurance industry and exerted a decisive influence on the ethos of the actuarial profession. William Morgan was neither the first insurance mathematician nor the first one to use the professional title of actuary; yet, in a deeper sense, he was both the first member and the founding father of our profession.

Almost equally interesting, and not without wider significance, is the presentation of some purely internal problems of the Old Equitable. Most of the Society's early difficulties were due to the lack of fully effective control by the Court of Directors. The original petition for incorporation by royal charter having been rejected because of official doubts as to the chances of the venture's success, the Society had to adopt the loose form of organization of a mutual society with the character of a partnership. Hence the predominant position of the General Court of Proprietors (i.e., the policyholders) and constant danger of dissent and disruption. After the failure of two rather halfhearted attempts to remedy the position (in 1786 and 1803), a fateful decision was made by the General Court in 1816. Henceforth the right to vote and the entitlement to bonus distributions would be restricted to the five thousand oldest policies in the Society. The retrenchment and stagnation which followed seventy years of unprecedented growth can be partly explained by this self-imposed strait-jacket. It is, however, difficult to escape the conclusion that a large part of the blame must be laid on lack of imagination and excessive conservatism of the men who were in charge of the Society's affairs during that period. That the inherent weakness of the Society's structure could be compensated by exceptional ability and character was demonstrated by William Morgan, the Society's actuary for fifty-five years (1775–1830), and Sir Charles Morgan, Bart., the forceful president from 1773 to 1806. Unfortunately, neither Arthur Morgan (actuary, 1830–70) nor the younger Sir Charles (president, 1806–46), who took over from their eminent fathers, were of comparable caliber.

The Society which for so long had been in the forefront of the new industry, the most respected and, even in 1869, one of the three largest offices in Great Britain, ceased giving the lead. Proud of its traditions, it remained aloof from the great controversies of the period and was unwilling to accept the challenge of the future.

At its zenith, the membership consisted of close on 10,000 assurances. There was a gradual fall at first to 8,867 in 1829; thereafter, the number declined rapidly so that it fell below 5,000 in 1855 and reached its lowest point around about the end of this period (1830–1870), the number of assurances being 3,785 in 1869. Though the membership declined, the assets went on increasing for some twenty-five years because the renewal premiums on the existing business and the income from investments exceeded what was required for the outgo on claims, etc., the excess had to be invested. The total assets rose to a peak of nearly £11,000,000 but began to decline in the 1840s and fell to £4,600,000 in 1869.

It was not until the last of the members entitled to vested rights under the resolution of 1816 died in 1892 that the Society undertook the long-delayed task of reorganization and modernization. Two names deserve to be mentioned in this connection—George James Lidstone, actuary from 1905 to 1913, and Sir William Palin Elderton, KBE. The latter, whose length of service with the Society almost equals the record established by William Morgan, was associated with the Society, as actuary, director, and president, for over forty-eight years, and it must be deeply regretted that his recent death (April 6, 1962) prevented him from participating in the bicentenary. Both Lidstone and Elderton were brilliant and most distinguished actuaries. As the author points out, the Institute of Actuaries and the Faculty of Actuaries in Scotland have made only two joint awards of gold medals for services to actuarial science—to Lidstone in 1929 and to Elderton in 1937. It was largely due to the efforts of these two men and especially to those of Elderton that the Equitable of today is once again a vigorous and progressive office. Although no longer one of the giants, it still retains its unique position among the thousands of life insurance companies all over the world.

While the purely technical aspects of the Equitable's history will be appreciated mainly by actuaries and life insurance specialists, there is much in this book that will be of interest to the general reader. The book includes many fascinating glimpses of the social and economic background of the eighteenth and early nineteenth centuries and tells us a lot about the surprisingly varied interests and achievements of the men who guided the Equitable. A few examples may be quoted.

Richard Price, F.R.S., whose treatise, *Observations on Reversionary Payments*, was the standard text on actuarial science for a century, also wrote *Observations on the Nature of Civil Liberty, the Principles of Government and the Justice and Policy of the War with America*. The book was received with enthusiasm in America, and five years later Yale Corporation conferred on its author the degree of LL.D. at the same time as that degree was conferred on George Washington. Price was an authority on public finance. He was invited by Congress to settle in America so that they could receive the benefit of his advice. He felt he was too old to make such a change but a few years later tendered advice to the American government in his book *Observations on the Importance of the American Revolution and the Means of Making It a Benefit to the World*, published in London in 1784.

William Morgan, who was Richard Price's nephew, shared his uncle's interest in politics. His home was a meeting place for persons of liberal opinions. Tom Paine was a frequent guest. In 1794, when the leaders of various radical societies were indicted for high treason, Morgan received a warning from the authorities. Ten years later he was writing pamphlets attacking the government's financial policies. He was also interested in the scientific discoveries of the time and himself conducted experiments on heat, combustion, and electricity. On the basis of a paper submitted to the Royal Society in 1785 it is now believed by scientists that he was probably the first experimenter to produce X-rays.

It was due to the predilection for Latin words and phrases of Edward Rowe Mores, F.S.A., the first "managing director" of the Equitable, that the old Roman title *actuarius* acquired its modern connotation. In this instance the letters F.S.A. stand for Fellow of the Society of Antiquaries. Mores was the author of several works, both in English and in Latin, his best known one being *Dissertation on Typographical Founders and Foundries*, published in 1780. We are told that "towards the end of his life, Mores fell into negligent and dissipated habits." He died in 1778 "of a mortification in his leg."

This book is well written and well produced. It contains many illustrations, including four color plates. One of these is a portrait by Gainsborough of the first Sir Charles Gould. Some sketches made by Sir George Hayter (Principal Painter in Ordinary to Queen Victoria) at meetings of members in 1849 give entertaining glimpses of the proceedings. One member is crying, "I want Equity and I will have it."

One minor criticism of the book might be mentioned. The author apparently shares Edward Mores's and Sir William Elderton's interest in genealogy and includes many family trees and details of family histories which in our view might well have been omitted. However, this is a small fault in a book of absorbing interest.

T. HALL and Z. JARKIEWICZ

* D. M. McGill, *Fulfilling Pension Expectations*, pp. xxxi, 314, Richard D. Irwin, Inc., Homewood, Illinois, 1962.

As the capstone volume of a four-year study by the Pension Research Council of the University of Pennsylvania, this book must be reviewed on two levels: as a summary of the work done by the four "task forces" of the Pension Research Council and as a contribution to pension literature in its own right. Three of the four "task forces" have published the results of their deliberations.[1] A fourth volume, "Actuarial Aspects of Pension Security," authored by two members of the Society of Actuaries, is to be published this year. It is, in some ways, unfortunate that Professor McGill's concluding volume could not await the publication of the latter study, especially since parts of the present book show evidence of having been hastily written and might have been improved had more time been devoted to the writing.

Although the Introduction to *Fulfilling Pension Expectations* disclaims any intention of being a summary or synthesis of the reports of the four task forces, it will undoubtedly be so considered by many readers. Partly because it is easier

[1] The first volume, *Legal Protection of Private Pension Expectations*, by Professor E. W. Patterson, was reviewed in *TSA*, XIII, 45; the second, *Legal Status of Employee Benefit Rights under Private Pension Plans*, by Professor B. Aaron, in *TSA*, XIII, 652; and the third, *Decision and Influence Processes in Private Pension Plans*, by Professor J. E. McNulty, Jr., in *TSA*, XIV, 189.

to read one book than five, and partly because of Professor McGill's position as project director, the present book is bound to represent, in many people's eyes, the result of, and the justification for, the entire Pension Research Council study. Professor McGill could not, however, in three hundred pages, include all the findings and recommendations of his four task forces, and in some respects his emphasis differs considerably from that of Professors Patterson, Aaron, and McNulty.

The book comprises two major subdivisions: the first nine chapters are predominantly factual and present the findings of the Pension Research Council study as selected and interpreted by Professor McGill. The last three chapters, containing fifty-five pages, offer suggestions for improving the security of employee pensions, many of them controversial, some of which emanate from the recommendations of the four task forces and some of which represent Professor McGill's personal views. The most notable omission is a chapter dealing with the special problems of negotiated plans—the type involved in many of the problems with which the book is concerned.

The first chapter, based on Professor McNulty's opus, deals with the functions which must be performed in the installation and operation of a pension plan. It discusses the processes involved in selling a plan, designing the coverage and benefit provisions, choosing a funding medium, installing the plan and communicating it to the employees, and administering its day-to-day operations. Due prominence is given to the influence of the Internal Revenue Service on this procedure and to the need for sound legal and actuarial advice. Chapter ii deals with the agencies servicing pension plans; the roles of insurers, corporate trustees, actuaries, accountants, lawyers, investment counselors, and insurance brokers are assayed, as is the task of the pension board in administering the plan. Although the various types of contracts offered by insurers are described, as well as the uninsured type of pension plan, there is little effort to compare them. Thus the similarity of the Immediate Participation Guarantee (IPG) to an uninsured trusteed plan goes unmentioned, nor are the tax disadvantages of individual policies and group permanent insurance, under present IRS rules relating to permanent insurance, considered. Also, the term "allocated funding" is not defined until chapter vii; chapter ii seems the logical place to define it when listing the different types of insured pension products.

Chapter iii, based on the legal analysis in Professor Patterson's book, examines the employer's obligation under a pension plan. The distinction between money-purchase and fixed-benefit plans is discussed, and various types of benefit formulas are mentioned. Little space is given, though, to the very common "x dollars per year of service," independent of salary, nor is much stress laid on integration with social security benefits, a prime consideration in the choice of most benefit formulas. The illustration used to explain the unit benefit type of formula is only applicable to a career-average salary plan, though this is not stated. There is no indication, either, of the relationship between a final average salary plan and a cost-of-living plan, though both are discussed. Although five pages are devoted to variable annuities and pensions tied to a cost of living index, the simplest and most common method of adjusting for inflation, a unilateral increase in the pensions of retired employees, is not even mentioned.

Chapters iv and v, which discuss the valuation of the liabilities of a pension plan and the different methods of funding that can be used to meet them, are presumably based on the still unpublished work of the actuarial task force. The explanation of the various actuarial assumptions required in the valuation process—mortality, interest, withdrawal, disability and retirement rates, salary scales and expense rates—is generally clear and concise, though the role of the assumptions, and the fact that they do not affect the ultimate cost of a pension plan, but only its incidence, are not sufficiently stressed. The author does not seem to appreciate fully the subjective nature of disability or the wide variation in the cost of disability benefits and suggests that the experience of life insurance companies in underwriting disability benefits in connection with life insurance contracts might provide an actuarial basis for the valuation of disability benefits included in a pension plan. The importance of salary scales in determining the cost of a pension plan is somewhat underrated, and the statement, "It is not customary to make an allowance for future changes in compensation when the career-average type of formula is used," seems questionable.

The description of pension fund valuation in chapter iv is rather confusing. The statement on page 95 that "the valuation of the liabilities of a pension plan is, in essence, nothing more than the estimating of the future costs of the plan" would be improved by adding some reference to "and determining their present values," and it is doubtful whether valuing a pension plan on the assumption that its termination is imminent is a common enough procedure to deserve the emphasis given to it, at least without some qualifying caveat. It would also have been useful to include some mention of asset valuation, a subject in many ways as important as the valuation of liabilities.

The illustrative "going concern" pension valuation on pages 118–25 seems unlikely to clarify the procedure for someone not already familiar with valuation technique. The concept of "reserve assets" as distinct from "reserve liabilities" seems more confusing than helpful, as does the analogy between the unfunded accrued liability and a life insurance company's deficiency reserve. Furthermore, the comparison between the "termination of plan" valuation shown on page 117 and the "going concern" valuation of the same pension plan shown on page 125 does not really illustrate a difference between two methods of valuing the plan's liabilities; the figures differ because a salary scale and withdrawal rates were used to compute the latter table but not the former. Perhaps a different salary scale, or none at all, would produce the opposite result.

Chapter v, which deals with funding methods, is generally quite well written; most of the usual funding methods are described in clear, nontechnical language. It is a pity, therefore, that the Attained Age Normal method is omitted and that Frozen Initial Liability is mentioned only in a footnote. With these two exceptions, the chapter presents an excellent summary of the purpose, techniques, and results of funding.

Chapter vi, drawn from Aaron's book, summarizes, in concise and lucid form, the legal theory underlying pension benefits, the legal status of an employee's benefit rights after voluntary or involuntary termination of employment, and the legal status of the employer's commitment to make contributions. Legal problems arising upon discontinuance of a pension plan or merger with another company are also touched upon.

Chapters vii and viii consider, respectively, insurance companies and segregated trusteed plans as funding vehicles for pension benefits. This area, of course, gives rise to highly controversial questions, many of which are side-stepped with the aid of a different emphasis and different chapter organization in studying the two competing media.

Chapter vii first examines the insurer's obligation to pay benefits under various types of allocated and unallocated funding devices, including individual policy pension trusts, group permanent life insurance, deferred group annuities, and deposit administration plans. Chapter vii also contains a thirteen-page description of the work of state insurance departments in supervising insurance companies, which is interesting but largely irrelevant to the subject of the book. A perceptive study of the actual effect of state supervision on the security of pension expectations and on the competitive position of insurers vis-à-vis trusteed plans, would have been more useful. Although mentioned later in the book, this chapter does not contain any analysis of the true reasons for the noteworthy financial stability of insurance companies, nor any indication that, in setting group annuity rates and in determining purchase rate guarantees for deposit administration funds, insurance company actuaries, too, make actuarial assumptions that have considerable bearing on the solvency and strength of their companies.

Most of chapter viii is devoted to a study of trusteed pension funds which are evaluated under three heads: (1) the nature of the actuarial assumptions underlying the funding policy of the employer; (2) the extent to which contributions to the fund conform to the funding policy; and (3) the manner in which the assets are invested and administered. It is a pity that Professor McGill did not apply the same three criteria to the insured plans he examined in chapter vii. Chapter viii also includes a discussion of state and federal supervision over banks and trust companies, though nothing is said about the Federal Welfare and Pension Plans Disclosure Act (the first mention of the Department of Labor as an agency interested in pension plans occurs in chapter x), nor about the supervision exercised by a few states, notably New York, over some uninsured pension and welfare plans. The discussion on page 205 of the quality of actuarial guidance given by insurance company actuaries to deposit administration and Immediate Participation Guarantee plans will certainly be viewed by some members of the Society of Actuaries as rather one-sided. Although the author takes pains to establish the undoubted professional qualifications of insurance company actuaries and their thorough familiarity with pension principles, nothing is said about the "mass production" nature of some insurance company deposit administration cost calculations, as well as those of some consulting actuaries, necessitated by the volume of such work and the high ratio of cost quotations to plans actually underwritten. The chapter concludes with a discussion of two new methods recently devised by insurance companies in their competitive battle for pension plan business: the "investment-year" or "new-money" method of allocating investment income and segregated accounts.

Chapter ix is devoted to a brief discussion of the extent to which the general financial resources of the employer furnish a degree of security for pension benefits. Professor McGill concludes that this source of pension security is no substitute for a sound funding program.

In the last three chapters, Professor McGill recommends a series of measures which, in his opinion, will improve the security of employee pensions. Some, such as the recommendation that the plan documents should set forth in unequivocal terms the benefits, conditions, and the limitations on employer financial commitments, and that plan booklets should be accurate and intelligible, will be readily accepted by all. Other recommendations, for example, that participants be kept fully informed as to all phases of the plan's operations which affect their benefit expectations, including funding policy and any deviations from same, and that each participant should receive a periodic report of his individual status under the plan, may be objected to by some people on practical grounds but will hardly provoke great controversy. Certain other recommendations, however, will furnish topics for debate for many years to come, while some, such as Professor Patterson's recommendation (which Professor McGill repeats, but does not endorse) that a copy of every pension plan be reviewed by a regulatory agency and that standard provisions, similar in intent, though not in form, to those prescribed for life insurance policies, be prescribed by a governmental agency will almost surely be rejected by many people concerned with pension planning.

One statement of considerable interest to this Society is: "There is widespread agreement that some form of public control is needed with respect to those persons who guide the actuarial destiny of pension plans." Professor McGill explores licensing of actuaries, or certification of actuaries by a state or federal agency, as a solution, but prefers instead the accreditation of actuaries by "each governmental agency whose responsibilities include the collection and evaluation of actuarial data." He suggests that Internal Revenue Service, the Department of Labor, or the Department of Health, Education, and Welfare develop standards for the accreditation of actuaries and that these standards (though he does not say how this is to be accomplished) be accepted by all other federal and state agencies. This procedure would allow persons not accredited as actuaries to continue to practice as such in areas where such accreditation is not necessary.

Another highly controversial recommendation is that legislation be passed stating specifically what types of organizations, other than life insurance companies, may write annuities. Professor McGill states: "Clarification of annuity writing powers, especially as they relate to providing of life income benefits to retired employees, is long overdue and should be undertaken without further delay." He also implies that any organization permitted to offer pension benefits should be subject to governmental supervision similar to that applicable to insurance companies.

Chapters xi and xii comprise recommendations for the security of vested and nonvested pension benefits, respectively. Of course this security would be assured if these benefits were fully funded, but Professor McGill goes beyond moral exhortation to employers to follow better funding practices. He suggests, in addition, that employers should assume legal responsibility for the fulfillment of all vested benefit rights, suggests separate accounting, or segregated assets, for vested and nonvested benefits, and recommends legal minimum standards for the valuation of vested pension liabilities.

Despite its shortcomings, *Fulfilling Pension Expectations* is a unique and important book. It contains much information not readily available elsewhere, and Professor McGill's recommendations for improving pension security will furnish actuaries and others with fruitful topics of discussion for some time to come. This thoughtful and stimulating book should be read by everyone concerned with pension planning.

ALLEN L. MAYERSON

*D. M. MacIntyre, *Voluntary Health Insurance and Rate Making*, pp. xi, 301, Cornell University Press, Ithaca, New York, 1962.

This very excellent and unique book covers the subjects of health insurance and rate-making as they apply to private insurance companies, Blue Cross and Blue Shield, and independent prepayment plans. It concentrates on the group practices of private companies, with incidental reference to health insurance policies sold individually. Although the book is primarily a discussion of the controversy of community rating versus experience rating, it brings up many other important health insurance issues as well. The author discusses the various forms of medical care insurance, service plans, indemnity plans, and group practice plans and also examines the possible government role in the field of health insurance. Mr. MacIntyre presents material which is factual, well documented, objective, and accurate and furnishes much of the historical background behind many of the current health insurance practices. This book should be interesting and informative to those with little experience in the field of group health insurance as well as to the experts. In addition to discussions on nontechnical subjects, there is considerable analysis of technical matters such as dividend or retroactive refund formulas and group underwriting practices.

Mr. MacIntyre begins his book with a discussion of the development of the health insurance industry, pointing out its extremely rapid growth during the last decade. He then sets forth many of the current important health insurance issues, which set the stage for the remainder of the book, namely:

1. Is it better to organize prepaid medical care on a service basis or should prepayment organizations simply pay cash benefits?
2. How much protection should voluntary health insurance provide, i.e., how much coinsurance and/or deductibles?

3. How should medical services be organized, on the traditional free choice and fee-for-service system or on the newer group practice system with physician payment on a capitation or salary basis?
4. Who should control hospital and medical services, the physicians and hospitals, the prepayment organizations, or the employers and unions?
5. What should be the relationship of voluntary health insurance and government activities in the medical care field?
6. (The issue with which the author is most concerned:) What is the most desirable and most equitable method of apportioning medical care costs among the consuming public, i.e., experience rating or community rating?

In order to shed light on these issues, Mr. MacIntyre first examines the theory, history, and practice of private insurance companies, in the course of which he touches on such items as the definition of an insurable hazard, rate-making, and the development of experience rating. He analyzes how insurance companies differ from Blue Cross/Blue Shield in their approach to health insurance, expenses of doing business, and regulation by insurance departments. Also, he develops a technical study of the components of insurance company manual rates, including morbidity loadings and expense discounts. This is followed by explanations of retention, renewal underwriting, and the development of retrospective rating formulas, covering in the process credibility factors, surplus distribution, and the competitive considerations. The material is well documented from the *Transactions* of the Society of Actuaries and other published actuarial papers and speeches.

Next examined are the benefit, underwriting, and rate practices among the various Blue Cross and Blue Shield plans, including their history and development, the standards required of Blue Cross plans, their premium rate structures, their underwriting limitations, and the various kinds of prospective and retrospective experience rating formulas which they use. In summarizing this material, he indicates that it is not possible to generalize about Blue Cross plans, as they are not uniform and that historically Blue Cross plans were community-oriented, hospital-sponsored institutions that paid little attention to insurance principles, enrolled all comers, and sold first-day, first-dollar benefits. However, because of increasing competition and financial problems, Blue Cross and Blue Shield have been relying more and more on traditional insurance principles, which has led to more complex rate structures and some experience rating. The necessity for finding a solution to the problems of insuring national accounts is also partly responsible for this result. He lists the advantages and disadvantages of experience rating as they were expressed by some of the Blue Cross and Blue Shield executives. The advantages mentioned were the improved relationships with regulatory agencies resulting from the lesser impact of general rate changes; the greater additions to contingency reserves from properly designed experience rating formulas; their competitive value; and the extra revenue when hospital discounts are not passed on to policyholders. Some of the disadvantages mentioned were increased expenses and overhead due to individual record-keeping; explanations to policyholders and the development of formulas; reduction in margins due to competition; increased difficulty in the attainment of universal coverage; and the encouragement given prospects to shop around.

Also mentioned are the rate-making and underwriting practices of the independent medical care plans such as Group Health Insurance, Inc., the Health Insurance Plan of Greater New York, Group Health Association of America, and the several allied Kaiser Foundation plans. He points out that the latter three, which are group practice plans, would find it very difficult to use experience rating, since doctors are remunerated on a salary or capitation basis. He mentions that these plans have shown a lower incidence of hospitalization among subscribers than where other forms of insurance for physicians' services are used. A review of business and union attitudes toward insurance company plans, community plans, and rating methods is also presented.

After having completed laying all the groundwork, Mr. MacIntyre finishes up with a final discussion of the experience rating–community rating controversy. He finds that this controversy has developed out of competition among the different voluntary health insurance plans and carriers and adds that it is not the only competitive issue but is one of several related issues. He concludes that both systems have substantial advantages and disadvantages and, furthermore, that insurance companies have been moving toward more pooling (community rating), especially in small group cases, while the Blue Cross and Blue Shield plans have been adopting experience rating to a greater and greater extent as time goes on. He favors a continuation of the competition between the two systems, particularly since health insurance is still in a state of flux and since neither system has demonstrated clear superiority.

This book is recommended to everyone who has an interest in the health insurance field. It is a fine contribution to the knowledge of health insurance, and Mr. MacIntyre is to be commended for this studious, informative, and valuable book.

RICHARD H. HOFFMAN

**Prepayment for Medical and Dental Care in New York State. A Report on the Seven Blue Shield Plans, the Health Insurance Plan of Greater New York, Group Health Insurance, Inc. and Group Health Dental Insurance, Inc. Serving New York Residents*, pp. xi, 312, submitted by the School of Public Health and Administrative Medicine, Columbia University, to Hon. Herman E. Hilleboe, Commissioner, Department of Health, and Hon. Thomas Thacher, Superintendent of Insurance, State of New York, 1962.

This report is the companion volume to an earlier report entitled *Prepayment for Hospital Care in New York State*, which was published in 1960.[2] Both studies were commissioned in 1958 by the New York State Health and Insurance Departments. Dr. Ray E. Trussell, then chairman of the Columbia University School of Public Health and Administrative Medicine, and presently commissioner of hospitals in the city of New York, directed the studies, which are also signed by his associate, Frank van Dyke.

[2] Reviewed in *TSA*, XIII, 41.

The general pattern of the report is very similar to that used for the hospital study. Dr. Trussell and his associates furnish to the reader a wealth of information with regard to the history, legal position, administration, and financial health of the various nonprofit prepayment medical care plans operating in New York State. After a discussion of the findings of the study staff, a number of recommendations are made.

The original development and present operation of the seven Blue Shield plans, Group Health Insurance, Inc., and the Health Insurance Plan of Greater New York are described and discussed. The differences between the existing plans are pointed out, and particular mention is made of the inadequacy of the New York City $2,500–$4,000 Blue Shield plan. By contrast, upstate plans are described as being much more satisfactory from the point of view of level of benefits and of ability to provide a service rather than an indemnity benefit.

The prepayment for dental care in New York State is discussed in detail. Group Health Dental Insurance Plan, Dental Insurance Plan, Inc., and the Dental Service Corporation are surveyed and reported upon. It is pointed out that relatively few persons presently have this type of medical care protection.

Mention is made of the privileged legal position enjoyed by these medical care plans. The opinion is expressed that, unless these plans act in the public interest, their special privileges should be withdrawn. The opinion is also expressed that legislation making it possible for Blue Cross and Blue Shield jointly to underwrite certain types of risk should be enacted. The authors advise the plans to include on their boards of directors interested persons who are not in the medical profession. They feel that this is necessary to assure that the public needs are met in a satisfactory manner and to minimize the need for government intervention in the design and administration of medical care plans.

The authors present the point of view that the Blue Shield plans are entitled to special privileges only as long as they provide a service that other agencies, such as commercial carriers, do not provide. They strongly censure the practice of certain Blue Shield plans to experience-rate and the trend toward the selling of indemnity benefit plans rather than service benefits plans. They criticize the low-income limits in effect on the service benefit plans sold, particularly in New York City, and the apparent inability of some of the plans to enforce the service benefit feature even when the income limits are satisfied.

In describing the great variety of plans in effect, the authors point to the gaps in coverage existing. They criticize the poor coverage of nonsurgical illness, of long-term illness, of maternity, care of premature infants, congenital anomalies, and routine services for the newborn. They find that the plans do not sufficiently provide for diagnostic procedures.

The changing relationship between hospitals and the specialties of anesthesiology, pathology, and radiology have caused some new problems to the plans. The authors discuss the trend toward private billing by such specialists and the fact that many Blue Cross and Blue Shield subscribers now find themselves not covered for such costs. Blue Cross provides benefits only when the specialist is a salaried employee of the hospital, and many Blue Shield plans do not provide benefits for such services. When the benefit is provided through the hospital, the authors state that the growing practice of determining the salaries of specialists as percentages of departmental incomes tends to increase medical costs.

The authors criticize the recent refusal of certain Blue Shield plans to pay hospital staff physicians for services rendered to subscribers in wards. We are told that these fees, in the past, were pooled into training funds and furnished a large part of these funds, even though they comprised a small percentage of Blue Shield payments. The opinion is expressed that this refusal to pay by Blue Shield throws a heavier load onto the taxpayer and the private patient.

A substantial portion of this report is devoted to the problem of the quality of medical care provided to the people of New York and to the question, "Who protects the public?" The authors state that the general public does not have the technical knowledge necessary for the selection of a competent physician. The report includes discussions of various studies in this general area.

The recommendations which are made are intended to remedy the unsatisfactory situations discussed in the report. The authors ask for legislative action as well as action by the State Hospital Review and Planning Council. The "Blues" are urged to revise and standardize their plans, change some of their administrative practices, and consider a further combining of their activities.

The bulk of the report furnishes the data and arguments to substantiate the points made in the first chapter. Included therein are a number of items of interest to the actuary concerned with health insurance.

As in the earlier report covering Blue Cross plans, the authors are thorough, constructively critical of existing "Blue" plans, and enthusiastic about the role the "Blues" should play in the field of medical care. While this report was not intended to discuss plans offered by insurance companies, it is curious how the authors avoided mentioning the contribution of insurance companies to the field of medical care insurance. In spite of this aspect of the presentation, this report is a useful and interesting addition to our knowledge of health insurance.

PHILIP BRIGGS

Financing Health Care of the Aged, Part I, pp. xvi, 186, and Part II, pp. 30, Blue Cross Association and American Hospital Association, Chicago, 1962.

The Health Care of the Aged, pp. xi, 159, Division of Program Research, Social Security Administration, United States Department of Health, Education, and Welfare, Washington, 1962.

The publications of both the Blue Cross Association–American Hospital Association and the Social Security Administration have many similarities in their contents. The introduction to Part I of the BC-AHA study, which will be considered first, provides an insight into its background. In the latter part of 1961, "the Member Plans of the Blue Cross Association voted to hold a special meeting early in 1962 to re-evaluate the official Blue Cross position on the use of governmental resources for financing health care of older persons and to consider measures that could be taken to expand coverage of this age group. The House of

Delegates of the American Hospital Association took similar action (and) . . . each organization decided that the voting members and delegates should have a factual background report for their use in studying the issues to be discussed and acted upon at these meetings." On the whole, the report sets forth a fairly dispassionate presentation of this many-faceted problem. As might be expected, the Blue Cross plans are presented as the voluntary instrument outside government control that would best provide for the health requirements of our senior citizens. However one may question this particular conclusion, there is still ample substance in the remainder of the study to recommend that it be used as a reference when one wants to consider this problem in depth.

Generally, the plethora of various statistics which practically ooze from this work centers around the period 1955–60. While these normally might be considered relatively recent in origin, the rapidly evolving data concerning our aged population and their problems in quest of adequate health protection make one feel that even some of these facts and figures must be qualified in the light of more up-to-date experience.

Part I of the BC-AHA study begins by examining the population trends of those 65 and over, noting that by 1980 about 10% of our population, or approximately twenty-five million persons, will be in that age category. The economic factors which characterize this greatly growing group are then discussed under the headings of "money income," "assets," "non-cash income," "tax position of the aged," and "budgetary needs." The study then continues with chapters relating to social factors, political factors, medical developments and changing health patterns, the cost of medical care, health care expenditures of the aged, utilization of health facilities and services by the aged, financing health care for the aged, and the broad system within which care is rendered.

While these chapters make very interesting reading, the statistics at hand, although more or less indicative of relative magnitudes, would have to be greatly qualified by any actuary who would consider their utility as a basis for individually underwritten health insurance policies. A large segment of the population which contributed to these statistics would never enter into the in-force data of insurance companies and, as a result, do not share their characteristics. Thus, the former may include many who would be unable to pay for the equitable premium necessary to provide adequate health protection at their advanced ages; or, in those cases where finance would be no question, many who would be uninsurable from a health underwriting viewpoint, although this factor loses importance as a result of the rapid development of mass enrollment programs which practically do not require such underwriting. A note of caution should also be given as to the basis of much of the statistical data quoted in this work. Unlike the usual actuarial study founded on the hard facts of "exposure or claim" units on hand subdivided into desirable classes for study, much of these data are the product of household interview surveys. Such data have inherent limitations as to their accuracy, as will be noted later in commenting on the report by the Department of Health, Education, and Welfare.

Part II of the BC-AHA report contains the statements made by the president of the Blue Cross Association and the executive vice-president and director of the American Hospital Association to a joint session of their delegates meeting on January 3, 1962.

The following statement by Walter McNerney, president of the Blue Cross Association, was particularly interesting:

It is further believed that the prepayment agencies acting alone, despite their close working relationships with hospitals, despite their practices of community rating and surcharging merit-rated accounts, cannot create enough new purchasing power for the aged, given the competitive nature of the market. It is acknowledged that outside help is needed, and that government is a logical source of this help. It is believed uniformly that the prepayment agencies are thoroughly capable of administering a program for the aged through which risks are shared.

Any legislation which is formulated to assist the aged in financing their health care should, it is believed, embody the following features:

It should strengthen rather than weaken the voluntary system's ability to serve the aged (and I might add that there is no evidence that these aged are right now in a state of great unmet health care need, although they may be in an anomalous economic purchasing position). The voluntary system is strong. It is productive. It is not impoverished. It is not on the brink of failure in any way, shape or form. It has earned and deserves support. The nature of this support should give the government no cause to step aside from its traditional role of catalyst and stimulator.

In regard to financing health care per se, government help should supplement and strengthen present mechanism for financing rather than supplant them, either in part or whole.

The Statements of Policy adopted by this joint session of delegates give an informative insight into the direction and form which they felt, at that time, adequate health care for our senior citizens should take.

The report issued by the Department of Health, Education, and Welfare is interesting from another aspect. While the statistics of this report duplicate in many instances those in the BC-AHA study, it would seem much more slanted in its presentation. As a sample, one might consider the Foreword signed by Abraham Ribicoff, then secretary of HEW:

A nation that cherishes independence and self-reliance and that has undertaken to help maintain these values through a sound system of social security cannot afford to let catastrophic health costs stand in the way of old-age security. The considerations that led to the enactment of the social security program more than a quarter century ago now point unmistakably to the addition of health insurance for the aged to this program.

As life expectancy has increased, bringing with it increased medical burdens of old age, it has become clear that provision for basic health insurance must be made a part of the program of retirement protection in the Social Security Act. Seeing the plight of their parents, people are coming to realize that insurance protection against the cost of hospital care in old age, like insurance providing for basic retirement income, requires use of the social security method. Non-governmental programs, of course, are an important way of supplementing old-age insurance, and public assistance is a necessary back-stop for those with special needs.

The tenor of this foreword is insinuated into much of the body of the report. For instance, in a chapter on private health insurance, great prominence is given to the inaccessibility of voluntary insurance to the mass of those over 65 because of the restrictions due to age, ill health, lack of renewal guarantees, etc. As a matter of fact, this statement reflects only a past history in the development of voluntary health insurance for the aged. Severely limited in statistically significant data concerning the medical expense costs associated with the aged, private insurance was forced to move slowly in developing adequate coverage for this sector of our population at a premium level which would be both equitable and sound in sustaining this class of business. Unlike government, industry is unable to erase deficits which may arise from a haphazardly conceived premium by arbitrarily levying a tax against broad sections of the population.

In continuing its comment on the extent of health insurance for the aged, the HEW report makes some quick mention of the fact that advances are being effected in this respect which should benefit in some way the current working force as they attain their senior ages. Nevertheless, not enough weight is given to the facts which point out that the current aged population were at their prime during the 1920–50, period in which health insurance was, comparatively speaking, in its crawling stages. As future retirees reach their older ages, more and more of them will find adequate health protection at their disposal.

Concerning the nature of the data itself, the following extract from this study is most interesting:

> The National Health Survey data on hospital utilization exclude the 12-month period prior to the household interview of the persons who died in that period. Since the mortality rate of the 65 and over age group is high, household surveys considerably understate the hospital utilization of aged persons.
>
> On the basis of a survey in the Middle Atlantic States, it is estimated that the inclusion of hospitalization received by decedents during the survey year results in increases of one-fourth to one-third in the total volume of hospitalization reported for persons 65 and over.

It would be well to recollect this statement when examining past or future estimates which emanate from federal agencies concerning the basis of projected costs for "King-Anderson" type proposals.

GEORGE B. TROTTA

"The Second Report of the Ontario Committee on Portable Pensions," pp. vii, 146, addressed to the Honourable L. M. Frost, Q.C., Prime Minister of Ontario, by G. E. Gathercole and D. C. MacGregor, Joint Chairmen of the Special Committee on Portable Pensions, Toronto, August 1, 1961.

The first report of this committee was a summary statement of its work in exploring methods of extending the portability of pension benefits.[3] The second report provides a comprehensive review of many phases of the Committee's inquiry into pensions and their portability. This scholarly report provides a back-

[3] For a digest of this report, see *TSA*, XIII, 658.

ground of information and an analysis upon which the Committee's findings and recommendations were based and makes a useful contribution to the literature on the subject of pensions and their portability.

In an introductory survey of the social and economic background, the report deals in a clear and concise way with such factors as the bearing on pension problems of increased length of life and changes in social and economic conditions, aims and motives in pension arrangements, the character of an employer's obligations to retiring workers and its significance in the design of employer's pension plans, pensions as a gratuity or as a right and the conditional nature of a deferred annuity, and pension costs and the level of income before retirement.

The report contains an excellent comparison of employers' and state pension plans in which there are several endorsements of the former:

> Our terms of reference imply that employers' pension plans, despite shortcomings, are desirable. While we are not obliged to defer to this view if we find convincing evidence to the contrary, our inquiries have confirmed that self-supporting employers' plans are in the interests of employees, and to the advantage of the nation as a whole.

The comparison goes on to discuss the chief advantages of employers' pension plans over the types of contributory state plans commonly used and then deals with two questions that are sometimes asked about employers' pension plans:

1. Will additional pension savings cause the flow of domestic capital funds of all kinds to exceed the need for new capital?

The Committee concludes that one effect of larger pension savings would be to provide from Canadian sources some of the capital funds now secured abroad. A country that has experienced as large a capital inflow as Canada has since 1950, has reason to welcome, rather than to fear, a larger internal capital supply. The various technical aspects of this question are examined in some detail in an appendix to the report, which indicates that there is not likely to be a plethora of savings.

2. Will the organizations that administer pension funds form a concentration of financial power so great that they may endanger the public interest, despite the laws under which they would be required to operate, through their influence on the direction of investment?

All signs point to an increasingly competitive situation in the provision of pension services. Recent amendments governing the investment of trusteed pension plans and of plans administered by life insurance companies have enabled greater diversification in pension investments. Under these conditions, employers' pension plans should provide not only bigger retirement incomes but a diversity and flexibility in the utilization of pension assets that should be of general advantage.

The comparison then lists the merits of a single contributory state plan, and concludes with the following:

> In a somewhat different direction we have been impressed with the undoubted role of government. Government is the only appropriate agency for establishing minimum requirements in the terms of pension plans, and for inspecting and supervising their

operations. We know of no effective alternative to government action of this type. If government does no more than this, but does it well, it will have done much.

Throughout our inquiry, we have tried to find ways of introducing into employers' plans the merits of early vesting and an early and substantial increase in their number and membership. These merits are claimed for state plans, but the state plans need not have a monopoly of them. We are encouraged by the knowledge that a few of the long-established employers' plans already have the merits we seek.

The report then examines the present extent of employers' pension plans and some of their shortcomings. A number of chapters are devoted to a careful study of these shortcomings, the first of which is the many nonmembers. The proportion of employees who do not participate in the pension plans of their employers appears to be about one-third. The report comments on the number and characteristics of the nonmembers of pension plans, and the effects that might be produced by reducing the age requirement for membership or the service requirement or by changing other restrictions on entry. A second shortcoming, and the one to which the Committee's inquiry is chiefly directed, is the high proportion of enrolled workers whose pension accumulations do not come to fruition. The Committee then studies the limited number of pension plans. About two-fifths of employees are still in the uncovered area, mainly because the majority of small employers do not have plans. Attention is also directed to the limited benefit paid in the event of death before retirement, and the effect of pension plans on the employment of older workers. The Committee devotes considerable attention to an especially serious shortcoming in the unevenness of government supervision and inspection, ranging from virtually complete supervision under which some plans operate to almost no supervision elsewhere.

In the main body of the book, there are excellent treatments of various aspects of pension plans such as the comparative amounts of employer and employee contributions under the different types of plans, the effects of cash withdrawal, vesting, and various mechanisms for transfer, consolidation and registration of pension accumulations. In this last connection, the possible role and form of a central pension agency are discussed. Such an agency would provide an alternative to transferring pension rights from one pension plan to another during working life, by making it possible to consolidate the various rights into a single pension. Such consolidation might take place at retirement or, in the case of small pensions, it might be done at the time of changing jobs. The report discusses the problems raised in connection with the formation and control of the central pension agency.

The report contains scholarly treatment of the problems raised by the uncovered area, the relationship between pension plans and employment, and many other factors. The problems of cost are thoroughly investigated; the report includes as an appendix an actuarial report, prepared by its consulting actuaries, on the cost of vesting in typical pension plans. The actuarial report indicates the relative employer costs under various vesting rules in seven hypothetical types of pension plans. The age distribution is a model derived from Canadian census data. The calculations reflect three funding methods—single premium, entry age normal, and attained age level premium.

Following this report, the Committee continued its work, and a proposed bill to extend pension plans and improve portability of pensions has now been produced. This bill is receiving intensive study both inside and outside the legislature of the province and was the subject of a public hearing held by the Ontario Committee on Portable Pensions in Toronto in September, 1962. The Committee's consulting actuaries produced another actuarial report, dated September 17, 1962, dealing with the pension benefit costs under the compulsory features of Bill 165.

CECIL G. WHITE

R. A. Lester, *Economics of Unemployment Compensation*, pp. x, 130, Industrial Relations Section, Princeton University, 1962.

The chief merit of this book, regardless of any specific conclusion or recommendation, is that it represents a comprehensive treatment by a well-informed individual, with practical as well as academic experience, in a field—that of unemployment compensation in the United States—where such treatment has been all too rare and where, in the author's own words,

> lack of agreement on aims and standards means that discussion often is at loose ends and cross purposes. Compromises are accepted with little understanding of the implications. State programs tend to become patchworks, lacking in consistency of intent or unity of elements. Too much effort has been devoted to filling gaps and adjusting piecemeal to complaints instead of facing up to critical problems and grappling with the fundamentals.

Professor Lester's impressive qualifications for bringing a measure of orderly perspective to this seeming chaos are thus stated in the Foreword:

> For the past twenty-five years, [he] has been intimately associated with the development of the nation's social security programs as a scholar and consultant-participant at the federal and state levels. He is currently chairman of the economics department at Princeton and chairman of the New Jersey Employment Security Council, a position which he has held for seven years. During the academic year 1960–61, while on leave as a Ford Foundation faculty research fellow, he had the opportunity to visit twelve of the state administrations and to discuss problems of unemployment insurance with a great many persons in the federal and state governments. His approach thus reflects a strong belief in and wide experience with unemployment insurance.

In the light of seven chapters of analysis and six assumptions regarding "current deficiencies and fruitful avenues of action," the author offers a ten-point program "as a reasonable and workable compromise of the many divergent viewpoints" regarding unemployment compensation. More specifically, he aims at "a workable balance among different possible objectives and principles, . . . between state and national interests, between employer and worker interests, and among the interests of different employers (in stable and unstable industries) and among the interests of different workers (with varied work records and labor market attachments)."

The seven analytical chapters deal, respectively, with:

1. The economic significance of benefits—relative to income and consumption, unemployment losses, and the business cycle.
2. The adequacy of benefits—personal, community, national.
3. The implications for benefits of labor-force changes—relative expansion of partially or loosely attached (secondary) workers.
4. The impact of unemployment taxes—experience rating, price effects, adaptation to the business cycle, higher tax base versus higher tax rates.
5. Interstate competition—disagreement as to its significance for unemployment compensation.
6. Barriers to revision—employer (including farmer) opposition, federal-state complications, labor viewpoints, ineffectiveness of the general public, varied roles of advisory councils.
7. Proposals for reform—structural change versus adjustment within existing framework.

The treatment clearly suggests that politics is not outdone by economic analysis as a major determinant of legislation and practice in the unemployment compensation area. The six assumptions are:

1. Radical revision is neither possible now nor necessary to remedy many of the current defects.
2. Experience rating will continue, so that each employer will have a direct financial interest in low benefits, and stable employers an interest in opposing increased federal sharing of costs.
3. Continued experience rating and the wide disparity in the incidence of recession unemployment make necessary federal sharing of the extra burden of recession benefits.
4. The need for unemployment compensation to adapt to such changes as the relative expansion of secondary workers and the long-term unemployed means greater emphasis on training and job placement.
5. The disproportionate amount of benefit funds going, in some states, to secondary wage earners (those most likely to malinger) as compared with fully attached family breadwiners results in charges of abuse and pressure on state legislatures to keep all benefits low.
6. Increased coverage and an adequate supplementary general relief program are needed to remove recessional pressures to pay benefits to persons not eligible or exhausting their benefit rights.

The ten elements of the program for improving unemployment compensation comprise:

1. Extending the coverage of the Federal Unemployment Tax to include employers of three or more and additional types of employment. (As a reason for the impracticability of extension to employers of two or one, mention is made of reluctance on the part of lawyer legislators to have their secretaries or clerical assistants covered.)
2. Increasing the wage base for the Federal Tax from $3,000 to $4,800 (as in FOASDI).
3. Tightening eligibility requirements (in some states) by insisting on "substantial attachment" to the labor market (e.g., at least 20 weeks of employment in the base year).

4. Providing in the Social Security Act a benefit level standard for employers in a state to be eligible for the full 2.7% offset against the Federal Tax (e.g., 60% of average weekly wage of covered employment in the State). No federal standards proposed with respect to benefit eligibility, disqualifications, or duration of benefits, because of the difficulties of handling under the tax offset system.
5. A program on a continuing (not emergency or recession) basis to meet the cost, through fifty-fifty federal-state matching, of extending benefit duration from the 27th through the 39th week of total joblessness for individuals with long-term attachment to the labor market (as evidenced by 78 weeks of employment in the 3 years prior to their benefit year). Eligibility to be contingent on willingness to undergo training.
6. Reinsurance program for fifty-fifty federal matching of extra benefits arising from economic recession (cyclical unemployment). For example, when insured unemployment equals 7% or more of covered employment in a state, federal government to pay one-half of benefits in excess of amount paid in corresponding quarter of the preceding year.
7. Experience rating of deficit amounts by a schedule of rates (as three states now do) to provide an incentive for employers to seek to reduce their negative ratios (but avoiding unduly high top tax rate).
8. Providing some tax reward for employers who have a continuing upward trend in their total employment.
9. Increased emphasis, federal as well as state, on employment service aspects—classification of skills, forecasting of job needs, worker training or retraining, expert job placement, worker relocation.
10. Fifty-fifty matching program for general relief, both on its own merits and to protect the unemployment compensation program through easing recessional pressures to mix relief with insurance by temporary extension of benefits.

The federal matching under points 5 and 6 is to be financed "from such sources as the raise in the taxable wage base, continuation of the 3.5 per cent federal tax rate with .8 per cent not eligible for offset, and any excess arising from states failing to meet the federal benefit standard." That under point 10 will presumably come from general revenues, as is the case with old age assistance and the other categorical assistances.

There is of course ample room to take issue with the author and, by further study and analysis of the "stacks of statistics" that (he claims) "lie largely unused for policy purposes," to develop alternative blueprints for improvement. This is not only possible but indeed necessary for healthy progress in this important area.

So controversial are many even of the nonstructural proposals considered that perhaps the only one on which some approach to a consensus seems feasible at this time is the author's parting call "for a fresh re-examination of the whole program, perhaps by a Presidential commission composed of experts and representatives from different interest groups." But one does not have to be in complete tune with the author to recognize that the type of treatment represented by this thought-provoking and timely little book is not so common (if indeed any current counterpart exists) that any serious student of the economics and financing of unemployment compensation can afford to forego the stimulus and instruction it provides. Particularly may this be said of those in the actuarial profession who aspire in whatever capacity to render a public service by doing their bit to further the cause of sound unemployment compensation in their states or even nationally.

G. W. K. GRANGE

*J. E. Walter, *The Investment Process as Characterized by Leading Life Insurance Companies*, pp. xx, 491, Division of Research, Graduate School of Business Administration, Harvard University, Boston, 1962.

This work covers in great detail the securities investment activities of life insurance companies. The primary audience sought is investment staffs and interested officials of life companies for the purpose of self-analysis. The author also feels other institutional investors in particular and sophisticated investors in general will find his study of interest.

The focus of the book is to examine the investment process, which is portrayed as a rational and systematic process whose "end product is a changing portfolio characterized by a moving rate of return and a shifting risk complex." Each step of the investment process is subjected to close analysis, and the treatment includes discussion of organizational and administrative areas and the impact of these influences on the character of the investment process itself.

The book is divided into five parts as described briefly below:

1. *Institutional characteristics.*—Life companies are analyzed by their capacity for risk-taking. There is an interesting review of the record of investment performance, including experience in the thirties. A study of the return on invested assets is presented, including comparative tables listing many life companies by name.

2. *Organization for investment decisions.*—The staff size and activity breakdown are discussed, using specific examples of life companies that represent large, medium-large, and medium-sized institutions. The use of external service facilities is discussed with an approach of "do-it-yourself" or "have-it-done-for-you." The last, but not the least interesting, chapter in this section is on the subject of communication flow and incentives; here is discussed finance committees and compensation.

3. *Forecast and allocation of funds.*—The subjects of cash forecasts and allocation of funds are each given a chapter and discussed in detail.

4. *Search for investment outlets.*—A critical analysis is submitted on the effort expended by life companies to locate advantageous investment opportunities and to ensure adequate flow of financing proposals.

5. *Evaluation and re-evaluation.*—This final part explains the evaluation given investment proposals by the securities staffs of life companies. Various guide lines are described along with specific life company policies in this area.

The summary of findings by the author is contained in the first chapter and is found piecemeal at the end of each succeeding chapter. Generally, he concludes that life company investments are the result of a rational investment process but that life companies over-all receive a poor grade in many aspects of investment activities. Under the broad thesis that life companies probably do not perform nearly as well as they might, the author offers queries and observations on many important facets of the investment process, such as investment policy, conflict between income and safety, quality of investment staffs, the search for investment outlets, cash forecasting, and supervision of existing investments. These specific points are only a small sample of those included in this book.

FERGUS J. MCDIARMID

SELECT CURRENT BIBLIOGRAPHY

In compiling this list, the Committee on Review has digested only those papers which appear to be of direct interest to members of the Society of Actuaries; in doing so, the Committee offers no opinion on the views which the various articles express. The digested articles will be listed under the following subject matter classifications: 1—Actuarial and other mathematics, statistics, graduation; 2—Life insurance and annuities; 3—Health insurance; 4—Social security; 5—Other topics.

References to allied subjects will be found in the following publications: *Mathematical Reviews*, published by the American Mathematical Society—Subjects: Probability, statistics, econometrics, various other mathematical topics; *Monthly Labor Review*, published by Bureau of Labor Statistics—Subjects: Cost and standards of living, employment and employment services, fringe benefits, handicapped, industrial hygiene, industrial relations, labor organization and activities, manpower, older workers and the aged, personnel management, social security (general); *Population Index*, published by Office of Population Research, Princeton University, and Population Association of America—Subjects: Mortality, fertility, marriage, divorce, the family, various other demographic topics; *Social Security Bulletin*, published by Social Security Administration—Subjects: Retirement and old age, employment, maternal and child welfare, health and medical care, various other topics in social security; *Journal of the Institute of Actuaries*—The review section contains digests in English of articles appearing in foreign actuarial journals.

ACTUARIAL AND OTHER MATHEMATICS, STATISTICS, GRADUATION

C. L. Chiang, "A Stochastic Study of the Life Table and Its Applications: I. Probability Distributions of the Biometric Functions; II. Sample Variance of the Observed Expectation of Life and Other Biometric Functions; III. The Follow-up Study with the Consideration of Competing Risks," Part I in *Biometrics*, vol. 16, p. 618, December, 1960; Part II in *Human Biology*, vol. 32, p. 221, September, 1960; and Part III in *Biometrics*, vol. 17, p. 57, March, 1961.

These three papers present the results of studies undertaken by the author because "the life table as a subject has yet to be systematically explored from a statistical point of view." The author shows that "(1) the numbers of survivors to the ages specified by the life table form a binomial random vector with a positive covariance between any two of the components; (2) the numbers of deaths in the specified age intervals have a multinomial distribution; (3) the covariance between the proportions of deaths (or survivors) in any two age intervals is zero, providing these intervals do not overlap; and (4) the distribution of the observed expectation of life at a given age is approximately normal if the number of survivors to that age is sufficiently large. Each of these functions was found to be an unbiased estimator of the corresponding unknown true value, and formulas were derived for their variance and covariance."

The author points out that, "although the theoretical probability distributions hold for both cohort (generation) life tables and current life tables, it is important in deriving formulas for their sample variances to recall that the basic random variables are different in the two cases. A cohort life table records the actual mortality experience of a given group of individuals from the time of birth to the death of the last member of the group. The basic random variables here are the number of survivors and the number of deaths, quantities that are directly observable in the experience of the population. The current life table is constructed from the proportion of deaths as determined by the age specific central death rate observed at one point in time. Other biometric functions are random variables only because they are functions of this one proportion. Thus, in the current life table the basic random variable is the proportion of deaths." The author presents formulas separately for cohort and current life tables.

In the third paper, the author proceeds "to adapt the biometric functions of the life table to the special conditions of the follow-up study." He first "considers the general type of study in which survival experience is investigated without specifications as to the cause of death," and then proceeds "to studies of mortality from a specific cause in the presence of competing risks."

C. L. Chiang, "On the Probability of Death from Specific Causes in the Presence of Competing Risks," vol. 4, p. 169, *Proceedings of the Fourth Berkeley Symposium on Mathematical Statistics and Probability*, University of California Press, 1961.

The estimators of the probabilities discussed in this paper require information on both causes of death and withdrawal status. The theory is applicable to follow-up studies.

C. L. Chiang, "Standard Error of the Age-adjusted Death Rate," *Vital Statistics-Special Reports*, vol. 47, p. 271, August 17, 1961, National Vital Statistics Division, Public Health Service, Washington.

The author states that "since a death rate is usually determined from the mortality experience of an entire population, rather than from a sample, it is sometimes argued that there is no sampling error and therefore there is no standard error to speak of. This point of view, however, is static. To look at the problem stochastically, the death rate can be regarded as a measure of an unknown force of mortality acting along with other unknown forces on each individual in the community. Since death occurring to an individual is subject to chance, the death rate for the community may vary from one time to another even if the force of mortality remains constant. To put it still differently, specific and adjusted rates are estimates of certain functions of the probability that an individual in the community will die within the period of time under study. Thus, these rates are subject to random variation just as are those obtained from a sample. From this viewpoint, it is natural and meaningful to study the standard errors of these rates." He proceeds to devise formulas for the sample variance of an age-specific death rate, the standard error of an age-adjusted rate by the direct method, and the sample variance of the life table death rate.

O. Jacoby and W. H. Benson, *Mathematics for Pleasure*, pp. x, 191, McGraw-Hill Book Company, Inc., New York, 1962.

The senior author, a Fellow of the Society, has a widely recognized reputation as a bridge player; his colleague is associate professor of mathematics at Dickinson College. The book is a collection of 161 short problems ranging in difficulty from elementary arithmetic to Part 5 caliber. Many present interesting exercises in applied logic. Solutions are given at the end of each of the five chapters.

Life Insurance and Annuities

*A. L. Mayerson, *Introduction to Insurance*, pp. xiii, 443, The Macmillan Company, New York, 1962.

This book, intended for the college student, the consumer with little or no knowledge of insurance or the novice insurance agent, treats insurance as a unified branch of knowledge. Although personal (life, health and retirement plans) and property (automobile, workmen's compensation, fire, theft, etc.) insurance are treated separately in much of the book, their similarities, rather than their differences, are stressed.

The first six chapters are concerned with basic principles applicable to all types of insurance. The notion of risk, the importance of the law of large numbers, and the need for statistics pertaining to the risks insured are considered in the first chapter; such basic ideas as the difference between insurance and gambling, anti-selection and self-insurance are also examined. The second chapter describes the history of insurance, starting in the 14th century and carrying through the SEUA decision and its aftermath. Chapter iii contrasts the different types of insurers: stock and mutual companies, fraternals, Lloyds, Blue Cross and Blue Shield, etc., and discusses the relevance, to the policyholder, of the company's corporate form. Chapter iv fits the insurance enterprise into its legal framework; it covers the reasons for government regulation of insurance and its scope, the nature and functions of the state insurance department, and the role of both state and the federal governments in the taxation and supervision of insurance. Chapter v deals with the basic principles of common law, notably contract and agency law, as they affect insurance. Chapter vi discusses the types of policy provisions that are generally used and examines the influence of laws, competition, and the customs of the business in evolving policy forms which provide the maximum protection to the insured.

Chapter vii–xv cover topics in property insurance. Separate chapters are devoted to automobile, liability, workmen's compensation, fire, theft, and marine insurance, while chapter xiv is devoted to the multiple peril concept which weaves various types of property coverage into a single policy.

Chapters xvi–xix, comprising almost one-third of the book, deal with life insurance, health insurance, and pension plans. Chapter xvi points out the difference between personal and property insurance and examines the special problems which arise when the insurance covers a man's life or earning power rather than his property. The differences between group and individual insurance are also examined in detail. Chapter xvii is concerned with life insurance—the different types of contracts available, the principal policy provisions and their meaning, and a brief exploration of the actuarial mechanics which make level premiums possible and which necessitate reserves and nonforfeiture values. Chapter xviii deals with health insurance, both those policies which offer loss-of-time coverage and those which provide hospital, medical and major medical protection. Chapter xix discusses retirement plans; individual annuities, group annuities, trusteed plans, and the United States social security system are studied and compared.

The book concludes with a bibliography, listing forty-seven books which examine specific aspects of insurance in more detail.

A. Pedoe, "Factors in the Trend of Mortality," *Journal of the Institute of Actuaries*, vol. 88, p. 1, June, 1962.

The paper is a critical examination of mortality trends considered in relation to the future. The bases of the study are the population mortality statistics of the continental United States compared with those of England and Wales in the twenty-year period from 1936–38 to 1956–58. The underlying causes of the differences in mortality between the two countries are examined. Comparative figures are given as to deaths due to violence and accidents, tuberculosis, respiratory diseases, bronchitis, diabetes, cancer, and cardiovascular-renal disease.

The effect of social class on mortality is particularly stressed, with figures taken from United States sources and from the Registrar General's Decennial Supplement on Occupational Mortality, 1951. A serious error in the tabulations in the latter is noted; this would also affect the author's paper in *TSA*, XII, 227.

In the discussion of the paper the optimism of the author was challenged, particularly regarding the trend of mortality after age 55; his reply adds to the interest of the paper.

L. Guralnick, "Mortality by Occupation and Industry among Men 20 to 64 Years of Age: United States, 1950," *Vital Statistics—Special Reports*, vol. 53, p. 45, U.S. Public Health Service, September, 1962.

The tables in this study show the number of deaths and the age-specific death rates among men ages 20–64 years for ten major occupation groups and for 158 occupational and 77 industrial classifications. Standardized mortality ratios are presented for ages 20–64 years and 25–59 years. Data for white and nonwhite men are shown separately for the occupational items.

The author discusses in detail the steps necessary to obtain the number of deaths in each occupation and industry and the number in the population with work experience. Attention is called to the necessity of caution in the use of the computations for three of the major groups (clerical, craftsmen, and operatives) because of significantly large differences between the reporting of the occupation on the census schedule and the reporting on the death certificate.

W. G. Bailey, "Some Points on Equity-linked Contracts," *Journal of the Institute of Actuaries*, vol. 88, pt. III, no. 380, p. 319, 1962.

According to the introductory remarks in the paper, "Equity-linked contracts have been the subject of discussions. . . . The papers delivered and the discussions devoted considerable space to the question of the desirability, both from the point of view of the industry and the public, of the issue of such contracts. . . .

". . . Several offices have entered the market . . . , and this paper, recognizing the de facto position, is concerned with practical points arising from the issue of the contracts." Subsequent sections of the paper discuss guarantees, the principal characteristics of the contracts being offered, the premium rate bases, paid-up and surrender values, valuation, taxation, accounts and returns, and conclude with general remarks. After discussing a number of considerations in respect to premium rate bases, the comment is made: "They certainly urge caution in the matter of interest guarantees and a refusal by the actuary to be stampeded into altering his premium rates every time the Stock Exchange gets an attack of the jitters."

Health Insurance

Family Medical Care under Three Types of Health Insurance, pp. xix, 202, A Survey Conducted by the School of Public Health and Administrative Medicine, Columbia

University, with the co-operation of the National Opinion Research Center of the University of Chicago, for the Foundation on Employee Health, Medical Care and Welfare, Inc., New York, 1962.

Information is presented on the amount and cost of medical care, other than dental care, received in 1958 by families covered by three different types of health insurance plans. These were New Jersey Blue Cross–Blue Shield, an example of a service benefit plan for in-hospital care; the General Electric Plan, a comprehensive cash benefit medical plan; and the Kaiser Foundation Health Plan, a comprehensive plan providing service benefits through hospital-based group practice. Three matched samples of approximately seven hundred families each were studied. The Blue Cross–Blue Shield and General Electric groups were selected from machinists, and the Kaiser group was selected from lower-skilled longshoremen and restaurant workers.

Hospital utilization under the three plans was generally similar—7.1 admissions (nonobstetrical only) per 100 persons under the General Electric Plan, 7.9 under the Kaiser Plan, and 7.6 under Blue Cross. Physicians' office and home visits were also highest under the Kaiser Plan, averaging 5.9 per person. These averaged 4.6 for persons covered by the General Electric Plan and 4.1 for Blue Plan subscribers.

In actual dollars, total family medical costs were lowest ($247–$257) for the General Electric group, who had the highest median income ($6,320). Costs were highest ($288) for families covered by Blue Cross–Blue Shield, who had the lowest median income ($5,380), and were nearly as high ($280) for the Kaiser group (median income $6,090). An attempt to adjust for geographic differences in prices, but not in income, produced figures showing that in constant dollars total family health care costs were $224 for the Kaiser group; $247–$257, General Electric; and $259, Blue Cross–Blue Shield. Blue Cross–Blue Shield covered 40% of the bill for family care and the General Electric Plan covered 43%, but the latter was broader in scope and covered a higher proportion of very large bills.

E. Shanas, *The Health of Older People: A Social Survey*, pp. xii, 250, Harvard University Press, Cambridge, Massachusetts, 1962.

"This book is a summary of the findings of a 1957 survey of the health needs of older people, as reported by a nationwide sample of persons sixty-five years of age and older and by those to whom older persons would turn in a health crisis." The survey was carried out by the National Opinion Research Center of the University of Chicago with financial support from the Health Information Foundation. Among the conclusions in the report are the following:

"Older persons are particularly vulnerable to catastrophic illness; at the same time they are least able to meet the costs of such illness. Some insurance program is probably necessary to enable the elderly to meet these costs. Whatever the auspices of such a program, it must fulfill two necessary conditions.

"First, its benefits must provide for the long-term hospital or nursing home patient. . . .

"Second, the costs of such a program for older people must be within their means. . . .

". . . There is considerable evidence that in a health crisis sons and daughters assume the responsibility for the physical care of elderly parents and often assume financial responsibility as well. . . .

"A substantial number of all adult Americans are contributing to the support of aged parents. . . .

"Older people in the United States want to be independent. . . .

"The American stereotype of the elderly—as sick, infirm, and indigent—is not validated by this survey. Some people 65 years and older are sick, infirm, and indigent, but most are functioning well physically and mentally. These people look first to themselves and their own resources, and then to the programs of the federal government for the means by which they may live out their lives in dignity and with self-respect."

U.S. National Health Survey, *Currently Employed Persons, Illness and Work-Loss Days, United States, July 1959–June 1960,* pp. 48, Public Health Service, Washington, April, 1962.

This report presents selected statistics relating to work-loss days associated with acute and chronic conditions for currently employed persons. It is based on data collected in household interviews during July 1959–June 1960. "A day was counted as lost from work if the person would have been going to work at a job or business but instead lost the entire day because of illness." An average of 5.6 days per person per year was lost from work because of illness or injury. The accompanying table shows these averages according to sex and age.

Age Group	Work-Loss Days per Currently Employed Persons per Year		
	Both Sexes	Males	Females
All ages 17 and over	5.6	5.5	5.6
17–24	3.8	3.3	4.4
25–34	4.5	4.1	5.5
35–44	5.2	5.0	5.4
45–54	6.1	5.9	6.4
55–64	7.5	8.1	6.0
65 and over	9.9	11.0	7.4

Corresponding averages are shown according to urban, rural nonfarm, and rural farm residence, for four geographic regions, and by family income. Further data relate to specific acute and chronic conditions.

U.S. National Health Survey, *Hospital Discharges and Length of Stay: Short-Stay Hospitals, United States, 1958–1960,* pp. 54, Public Health Service, Washington, April, 1962.

The data for this report were collected through household interviews during July 1958–June 1960. Details are presented on discharges from short-stay hospitals by age, race and sex, geographic region and residence, social and economic characteristics, and condition for which hospitalized. In addition, hospital utilization is shown according to family income and education of head and household composition (that is, living alone, living with nonrelatives, or living with relatives). The qualifications and limitations of the data are described in detail.

U.S. National Health Survey, *Plan and Initial Program of the Health Examination Survey,* pp. 43, Public Health Service, Washington, May, 1962.

The broad primary purposes of the Health Examination Survey in the National

Health Survey are: "(1) to provide statistics on the medically defined prevalence in the total U.S. population of a variety of specific diseases, using standardized diagnostic criteria; and (2) to secure distributions of the general population with respect to certain physical and psychological measurements." The first cycle of the Health Examination Survey covers the entire adult, civilian, noninstitutional population between the ages of 18 and 79. Some of the characteristics measured are height, weight, and blood pressure. Particular emphasis is placed on the prevalence of certain cardiovascular diseases, arthritis and rheumatism, and diabetes.

The report describes the advance arrangements made for the survey in each area where it is conducted. Also described are the steps taken in selecting and contacting the sample persons, the examination and the examining process, and the post-examination procedures. The Appendix lists the areas included in the sample and has a copy of the interview questionnaire and the selected medical history questions.

U.S. National Health Survey, *Acute Conditions, Seasonal Variations, United States, July 1957–June 1961*, pp. 59, Public Health Service, Washington, June, 1962.

"This report presents an analysis of the incidence of and the associated disability from acute conditions for 16 quarters of data collection to show seasonal variations." Data are presented according to both sex and acute condition group and also according to both sex and age. Disability is expressed in terms of days of restriction from usual activity, days of bed disability, and days lost from work or school. For the acute respiratory conditions and injuries, this detail is shown according to age but not by sex.

U.S. National Health Survey, *Acute Conditions, Geographic Distribution, United States, July 1960–June 1961*, pp. 39, Public Health Service, Washington, June, 1962.

"An acute condition is defined as a condition which has lasted less than three months and which has involved either medical attention or restricted activity. Because of the procedures used to estimate incidence, the acute conditions included in this report are the conditions which had their onset during the two weeks prior to the interview week and which involved either medical attention or restricted activity during that two-week period." Excluded are certain conditions which are always classified as chronic even though the onset occurred within three months. A day of bed disability is one on which the person stays in bed for all or more than half of the daylight hours because of a specific illness or injury. All hospital days for inpatients are included. The accompanying table shows the incidence rates and average days of bed disability for the acute conditions according to sex and age.

Age Group	Number of Acute Conditions per Person per Year		Number of Bed-disability Days per Person per Year	
	Males	Females	Males	Females
All ages	1.94	2.10	2.88	3.75
Under 5	3.74	3.72	4.15	4.80
5–14	2.59	2.52	3.82	3.82
15–24	1.69	2.07	2.34	3.46
25–44	1.46	1.95	2.19	3.68
45–64	1.24	1.43	1.93	3.16
65 and over	1.12	1.24	3.83	4.24

Corresponding data are shown according to urban, rural nonfarm, and rural farm residence and for four geographic regions. Like data according to sex but not age are shown for specific acute conditions.

U.S. National Health Survey, *Selected Impairments by Etiology and Activity Limitation, United States, July 1959–June 1961*, pp. 50, Public Health Service, Washington, July, 1962.

The data for this report were collected in household interviews and relate only to the civilian noninstitutional population. "These estimates pertain to impairments among persons able to live at home, and therefore exclude persons receiving care or training in institutions such as schools for the blind or the deaf, or in nursing homes or convalescent homes in which persons may be blind, deaf, paralyzed, or unable to move about freely because of a fractured hip or other bone and joint conditions." The report is restricted to impairments involving vision, hearing, speech, absence of major extremities, paralysis, and other orthopedic defects. Data are presented with regard to age and sex. The survey yielded the following summary data:

Selected Impairments	Average Number (in Thousands)	Rate per 1,000 Population
All visual impairments	3,494	19.8
Severe visual impairments	988	5.6
Other visual impairments	2,507	14.2
Hearing impairments, all types	6,231	35.3
Speech defects	1,034	5.9
Paralysis, complete or partial	946	5.4
Absence of major extremities	259	1.5
Other impairments of limbs, back, trunk	13,198	74.9

U.S. National Health Survey, *Chronic Conditions Causing Limitation of Activities, United States, July 1959—June 1961*, pp. 39, Public Health Service, Washington, October, 1962.

Estimates of the average number of civilian, noninstitutionalized persons with at least one chronic condition are based on interviews in some 76,000 households comprising about 250,000 persons. Since these estimates are based on information from persons who have reported chronic disability in the form of limitation of activity or mobility, they represent for the most part rather severely affected persons. Errors of omission in reporting these persons are believed to be small, except for persons with mental illness or malignant neoplasms.

Detail tables show estimates by degree of activity or mobility limitation, duration and cause of limitation, and by age, sex, and usual activity status of the person affected. Certain tables relate persons with chronic conditions to those in the population surveyed.

PER CENT DISTRIBUTION OF PERSONS WITH LIMITATION OF ACTIVITY DUE TO CHRONIC CONDITIONS

Age	Persons with No Chronic Conditions	Persons with 1+ Chronic Conditions: With No Limitation of Activity	With Limitation, but Not in Major Activity*	With Limitation in Amount or Kind of Major Activity*	Unable To Carry on Major Activity*
Males:					
Under 17...	80.6	17.4	1.0	0.7	0.2
17–44......	57.0	35.7	2.1	4.4	0.8
45–64......	40.3	40.8	4.0	10.4	4.4
65+.......	21.8	28.4	4.6	22.6	22.6
Females:					
Under 17...	83.5	14.9	0.8	0.6	0.2
17–44......	52.6	40.0	3.0	3.9	0.5
45–64......	37.1	45.0	5.9	10.4	1.5
65+.......	20.9	38.0	8.6	22.9	9.6

* Major activity refers to ability to work, keep house, or go to school.

PER CENT DISTRIBUTION OF PERSONS WITH LIMITATION OF MOBILITY DUE TO CHRONIC CONDITIONS

Age	Persons with No Chronic Conditions	Persons with 1+ Chronic Conditions: Not Limited In Mobility	Has Trouble Getting Around Alone	Cannot Get Around Alone	Confined to House
Males:					
Under 17...	80.6	19.0	0.1	0.1	0.1
17–44......	57.0	42.2	0.6	0.1	0.1
45–64......	40.3	55.9	2.9	0.4	0.5
65+.......	21.8	62.5	10.4	2.3	3.1
Females:					
Under 17...	83.5	16.2	0.1	0.1	(*)
17–44......	52.6	46.7	0.4	0.2	0.1
45–64......	37.1	59.3	2.3	0.8	0.6
65+.......	20.9	59.6	9.6	5.5	4.4

* Magnitude of the sampling error precludes showing separate estimates.

U.S. National Health Survey, *Persons Injured by Detailed Type and Class of Accident, United States, July 1959—June 1961*, pp. 51, Public Health Service, Washington, October, 1962.

In this report, based on interviews in approximately 76,000 households comprising 250,000 persons, estimates of the average annual number of persons injured, and number of persons injured per 1,000 population per year, are derived from the count of persons who reported an injury during the two-week period prior to the week of interview. Tabulations are shown based on classification of injuries by cause, severity, and place of occurrence, and classification of persons injured by age, sex, usual activity status, family income, and residence. The following is excerpted from these tables.

Age Group, Years	Number of Persons Injured per 1,000 Population per Year with: Medically Attended or Activity Restricting Injury	Medically Attended Injury	Activity Restricting Injury	Disabling Injury	Hospitalized Injury
Males:					
Under 6	306.7	285.9	108.2	41.4	*
6–16	378.7	310.7	248.4	87.3	17.8
17–24	410.0	367.4	228.9	61.8	16.3
25–44	282.0	251.0	152.3	66.3	16.2
45–64	236.1	205.6	136.7	59.0	17.0
65+	169.2	120.9	121.3	57.4	*
Females:					
Under 6	280.1	251.9	122.8	64.9	10.4
6–16	248.3	192.3	169.5	63.1	7.5
17–24	163.1	140.3	97.8	40.5	*
25–44	178.0	135.5	118.6	40.3	6.7
45–64	201.7	163.4	130.1	51.4	6.1
65+	206.1	139.5	141.5	51.8	21.5

* Magnitude of sampling error precludes showing estimate.

This report relates only to civilian, noninstitutionalized persons living at the time of interview (hence excludes persons immediately killed by injury) and does not include information on the length of any disability resulting from injury.

U.S. National Health Survey, *Volume of X-Ray Visits, United States, July 1960—June 1961*, pp. 57, Public Health Service, Washington, October, 1962.

Estimates of the average annual number of medical and dental X-ray visits and rates per 100 population per year are derived from data provided by persons reporting an X-ray visit during the three-month period prior to interview in a sample survey covering approximately 38,000 households containing about 125,000 persons living at the time of

Age Group, Years	Number of X-Ray Visits per 100 Persons per Year: Chest	Dental	Other
Under 15	6.8	21.4	10.3
15–29	37.0	40.8	22.8
30–44	40.0	35.3	27.1
45–64	42.6	23.9	35.4
65 and over	33.0	10.4	30.6

the interview. An X-ray visit is defined as a visit to a physician's office, dentist's office, hospital, mobile X-ray unit, etc., during the course of which X-rays (other than from radioactive materials) are used for diagnosis or treatment. Tabulations are shown based on classification by area of the body X-rayed, place of X-ray, number of visits in three-month period, and by age, sex, race, residence, family income, and education of family head of the person X-rayed. The figures in the tabulation above are excerpted from the tables.

Morbidity Statistics from General Practice: Vol. I (General), pp. iv, 174, by W. P. D. Logan and A. A. Cushion, 1958; Vol. II (Occupation), pp. vii, 269, by W. P. D. Logan, 1960; and Vol. III (Disease in General Practice), pp. v, 144, by the Research Committee of the Council of the College of General Practitioners, 1962; Studies on Medical and Population Subjects, No. 14, General Register Office, H.M. Stationery Office, London.

These reports are derived from "a statistical study of the clinical records of 106 general practices in England and Wales during the twelve months May 1955, to April 1956, carried out jointly by the College of General Practitioners and the General Register Office. . . . The object of the present Survey was, in essence, the simple one of measuring, in total and for each disease, the amount of sickness encountered in general practice. This basic information can be divided to give figures for different age-groups, areas, occupations, etc., but the fundamental content of the tables in this Study is the amount of sickness encountered, measured by the number of patients affected and the number of medical consultations entailed. . . . The Survey was limited to National Health Service patients as these constitute a known population to which events can be related for calculating rates."

The reports describe methods of procedure and qualifications to the data, which are presented in great detail.

SOCIAL SECURITY

E. E. Witte, *The Development of the Social Security Act*, pp. 236, The University of Wisconsin Press, Madison, 1962.

Both the Foreword, written by the former Labor Secretary Frances Perkins, and the Introduction by Wilbur J. Cohen and Robert J. Lampman, indicate that this material was originally written as a confidential memorandum on the history of the Committee on Economic Security and its effects on the drafting and legislation of the Social Security bill. As executive director of the Committee, Edwin E. Witte kept this diary of working notes for his own guidance in heading up the Committee. Later, he organized the material into a running account of the Committee's work, its personality clashes and conflicting interest, its research, and the formation of the numerous compromises that are now part of the social security laws. The amendments and proposals are discussed on the basis of assuming that the reader has more than a reasonable background knowledge of the subject.

This book has a role as a historical work, as a description of a structural change in the American economy, and as a commentary on how government makes use of the resources and talents of experts in helping laws come into being.

A. M. Niessen and S. Chmell, *Progress of Disability Program under the Railroad Retirement Act, 1937–61 (RRB Actuarial Study No. 4)*, pp. 51, Railroad Retirement Board, Chicago, Illinois, 1962.

Because the disability program of the Railroad Retirement Act is the oldest and most comprehensive of its kind in this country, its experience is of interest not only to the Railroad Retirement Board and the railroad industry but also to outside pension experts and students of social insurance problems. This report traces the legislative changes in disability and mortality provisions since enactment of the 1935 Railroad Retirement Act, actuarial costs over the years, changes in disability and mortality rates, and other statistical and actuarial characteristics of the program. Beyond the scope of this monograph are the mutual effects of the disability retirement program and the sickness (temporary disability) benefits in operation since 1947 under the Railroad Unemployment Insurance Act and the results of the financial interchange between the Railroad Retirement and the Old-Age, Survivors, and Disability Insurance systems.

J. L. Cowen, *Occupational Differences in Separation Rates or Railroad Workers, 1957-59* (*RRB Actuarial Study No. 5*), pp. 39, Railroad Retirement Board, Chicago, Illinois, 1962.

This report is a continuation of RRB Actuarial Study No. 2, which dealt with the same type of experience during 1954–56. The separation rates considered include those for death in active service, age retirement, disability retirement, and active withdrawal. Basic data are presented for both active employees and new entrants by attained age and occupational group (and, also, for active employees, by completed years of service). Standardized mortality rates are presented by occupation as well as by age groups. The same procedure is also carried out for age and disability retirement rates separately. Finally, active withdrawal rates by years of service and by age are given for various occupational groups.

AN ANNOUNCEMENT

The National Center for Health Statistics announces a new publication *Vital and Health Statistics*, consisting of several series of reports, as follows:

"Reports in the various series will be issued when ready, and not on a periodic basis. Reports in some series will appear early in 1963, but other series will not be started until later. The frequency with which reports will be issued in each series will, of course, vary.

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