PLAINTIFF'S EXHIBIT

MET-833

pital ship at Casablanca and Japan, and our instances of bacillary dysentery were tremendous. It mostly affected men who were active in the harbor. In fact, one ship was so badly disabled I don't think it could have pulled up its anchor, and we found — it was our practice at least to use sulfadiazine, which gave excellent results, and if that didn't work we had adequate laboratory facilities, and everything that a hospital should have. If the stools did not become negative through sulfadiazine we then used sulfanilamide, and between the two we were able to clear up every case practically and there was no mortality, although some of these fellows were passing pure blood for several days. But I would like to ask Dr. Keefer this question: We treated a great many cases of syphilis with penicillin and, of course, in those days the dose, as I remember it, was 1,400,000 units given over a period of seven and one-half days at three hour intervals. I would like to ask if in his opinion according to the present knowledge, that dose was adequate, so that these cases won't have more trouble in the future?

I would also like to ask Dr. Keefer, what is the outlook on the commercial supply of streptomycin, whether we are going to get a more adequate supply?

PRESIDENT STREIGHT — Any other question?

DR. RICHARD S. GUBNER — Increasing resistance to streptomycin occurs in many organisms in vitro. Does this occur in human tuberculosis, and if so, in view of the protracted treatment in tuberculosis, is it likely that this constitutes a practical limitation to the usefulness of streptomycin in tuberculosis? Have any studies been done which would show that that organism is recovered from sputum after streptomycin has been carried on for a month or two by increasing resistance over the initial resistance? Dr. Keefer indicated that some evidence had been presented that sulfa drugs were of some value. I would like to ask Dr. Keefer what is the present status of the sulfa drugs, such as, sulfadiazine?

DR. RALPH R. SIMMONS — I would like to ask Dr. Keefer if he will discuss with us by what tests we can determine when an individual has had sufficient treatment in cases of syphilis to render him safe as an insurance risk. I appreciate the fact that I am asking for that probably ten years before I should, but we are going to have to pass on these people in the intervening ten years.

One other thing that I would like to ask for help on is that not too long ago one of our officers developing a sore throat, bought some penicillin in tablets or lozenges. The package said definitely they should be dissolved on the tongue, but being one of those enthusiastic individuals he chewed it vigorously until he had consumed some three or four, to find out a few hours later that he had difficulty in his speech, which he attributed to the tablets. This difficulty persisted for about twenty-four or thirty-six hours and then it seemed to disappear. I would like to have some help on that problem.

PRESIDENT STREIGHT — Are there any other questions?

DR. JOSEPH W. JOHNSON — I would like to make an observation as to diphtheria and ask Dr. Keefer a question in regard to the problem of diphtheria that we encountered on the continent. We saw many men there who had acute diphtheria. They were given sulfonamides and were occasionally given penicillin. Many of those men came down with the most serious cases. Now it seems to me, as he implied this morning, we have had that type of diphtheria turning up in this country, and if we injudiciously use sulfonamides and penicillin without adequate bacteriology, we are going to run into trouble. The reason I stress the diphtheria problem is because it is quite different. Many of the cases looked like streptococcus for the first twenty-four hours. In Florence, Italy, 90% to 95% of the complications were polyneuritic.

The last question I want to ask Dr. Keefer is: Are the sulfanilamides and arsenicals used in syphilis effective in the diphtheritic groups? We had great difficulty with them in

trying to clear up carriers. I am leery of both of those agents in handling the problem of diphtheria.

DR. KEEFER — With respect to the question of dosage schedules in the treatment of syphilis, at the present time, the Committee on the Study of Syphilis of the United States Public Health Service, is continuing the work that began under the Committee on Medical Research of the OSRD. Perhaps many of you know that they set up a program which is nation-wide on the basis of different dosage schedules. Originally Dr. Mahoney suggested the dosage schedule of 1,200,000 units given over a period of seven and one-half days in sixty equally divided doses. Other dosage schedules have been included of 2.4 and 4.8 million units given in a divided dosage over seven and one-half days, and the time dosage relationship has been changed from every four hours to every three hours to every two hours. While it is too early to make any statements about what is the best time dosage relationship and what total amount would give the best results, it is the opinion of Dr. Mahoney and his group that they have obtained the best results on a two hourly schedule using between 3.6 and 4.8 million units in the seven and one-half day period. All of these patients, of course, are followed carefully by periodic serologic examinations, and this is continued for a period of two years after treatment. In the cases of serologic relapse they have assumed in many instances they were relapses instead of reinfection. In some instances they obviously were reinfection.

I do not believe it is possible now to make any specific statements concerning the time at which these patients should be followed before one could be certain that they are safe risks. Certainly if the serologic reaction becomes negative and does not relapse within a year, one can be assured that such a patient would seem to be free of infection.

With respect to the outlook of streptomycin production, I don't know very much about the details, because I only know what I am told, and the Civilian Production Administration,

on the basis of information available to them, is of the opinion that there will be an increase in the present production about the first of the year, barring strikes and other things that have definitely delayed the production program.

It has been determined that tubercle bacilli are becoming increasingly resistant to streptomycin. Dr. Yeomans, of the Northwestern University, made a study of this in the cases that have been followed at the Mayo Clinic. So we do not know the meaning of this increase in in vitro resistance of tubercle bacilli following treatment. We simply have to follow these cases with great care and attempt to determine what this increase in in vitro resistance actually means.

I cannot answer the question of the difficulty in speech following the use of penicillin lozenges. Penicillin lozenges are of various types, of course. There is one that is incorporated into chewing gum or into paraffin, in which penicillin is liberated from the paraffin as it is chewed. The other, of course, is bound with a buffer, usually sodium citrate, in the form of tablets, which are to be swallowed. If penicillin is used in the form of tablets there is only one thing to remember and that is that at least five times as much should be used at a single dose or five times as much total daily dose as is usually required when given parenterally.

With respect to diphtheria, of course, the treatment of diphtheria continues to be anti-toxin. Penicillin has no effect on the toxin of diphtheria or the lesions that develop in man as a result of intoxication.

With respect to carriers, it has been found in our clinic in Boston that if adequate amounts are administered that is, at least 100,000 to 150,000 units a day for ten to fourteen days, the carrier state can be greatly reduced when you start treatment during the active phase of diphtheria. If acute diphtheria is treated with anti-toxin and penicillin the number of carriers at the end of fourteen days is greatly reduced. When carriers are treated, on the other hand, then the problem is

very much more complex. Here even when large amounts are given for a period of fourteen to twenty-one days, the carrier state may not be eliminated. Why that should be so we do not know, but if you are going to use penicillin in the treatment of diphtheria in the acute phase it should be used with anti-toxin. It should be continued from ten to fourteen days, and with the carrier certainly that is the minimum period of treatment — not just a few days.

DR. ARTHUR J. MCGANITY — Mr. Chairman, if I may ask just one question. In our last meeting we heard a great deal about sulfonamide sensitivity and we heard warnings about it. Since that time there has been an enormous amount of experience in the armies all over the world in the use of these drugs for very many conditions. Has Dr. Keefer anything to add to our knowledge about that now? Are we perfectly safe in taking people who have been treated with sulfonamides for a short period after they have recovered from the disease for which they were treated?

DR. KEEFER — I believe that question was raised the first time I had the privilege of talking to this group in Boston. One hears a great deal about patients who cannot take the sulfonamides, and I think that it is true for the reason that a certain number of patients will develop skin eruptions and fever if they are sensitive to the sulfonamides. I do not know that it has produced any permanent harm. Certainly, if cases of permanent tissue damage are being produced by the use of the sulfonamides they must be extremely rare, for the reason that literally thousands of tons of sulfonamides have been taken by the people of this country in the last few years. In patients who develop renal complications from the sulfonamides, in our own experience, it is usually all or none. They recover completely or they may actually die, but one should not be afraid to use the sulfonamides because of renal complications because they can be prevented if you see that the patient gets enough fluid. If he puts out 1,500 cc's of urine a day you don't have to worry about renal complications. The difficulty is

that some patients don't like to take fluid if they are taking sulfonamides for a sore throat, or if they are dehydrated and have been vomiting before the sulfanilamide is started then they may get into trouble, for the reason that the sulfonamide is being given to a patient who hasn't established a free flow of urine. We haven't had one instance of renal complication due to sulfonamides in our clinic in five years, and the reason is that the drug is never started until the patient has a free flow of urine. So that renal complications in our experience are rare.

PRESIDENT STREIGHT — The next order of business is to ask the experts to question the experts. Dr. Albert J. Robinson, Medical Director of the Connecticut General Life Insurance Company of Hartford, Connecticut, will take charge of this part of the program.

Dr. Albert J. Robinson assumed the Chair . . .

OPEN FORUM
on
PROBLEMS OF MEDICAL SELECTION

ALBERT J. ROBINSON, M. D., *Moderator*

Connecticut General Life Insurance Company

When your Program Committee asked me to be Moderator for this Open Forum, I accepted the assignment because I believe every member of our Association should be willing to do such extra-curricular work as he may be asked to do by our Program Committee, and second, because I am personally enthusiastic about the idea of an Open Forum on our program.

Notwithstanding the shortcomings of your Moderator, which will be all too apparent as we progress, I believe we can all derive much benefit from an Open Forum. We come to these meetings to find out what others are thinking and how they are meeting their underwriting problems. A Forum such as this affords every member of the Association an opportunity to get a cross-section of opinion from a group of Medical Directors and their associates, who are collectively the best authorities in this country on medical history and impairments as they relate to insurability.

I wish to express my appreciation to all those who wrote to me suggesting topics. There was a wealth of excellent material. My greatest task was to make a selection and limit the number of topics to fit our time schedule.

I have chosen six topics, some of which are currently controversial. They all present underwriting problems to Medical Directors and their associates. They are:

1. "Insurability of the Diabetic."
2. "Under what circumstances do you insist upon an attending physician's statement? How do you obtain it and what do you pay for it?"

3. "The Prudential concept of the necessary ratings for personal or family history of pulmonary tuberculosis or exposure to this disease."
4. "What constitutes more than one attack of duodenal ulcer?"
5. "Should a QRS of less than 5 mms. in an EKG which is otherwise satisfactory ever be accepted standard, or if offered substandard, at what rating?"
6. "Diverticulosis and Diverticulitis."

Because we are going to be pressed for time to cover this number of suggested topics, it is my desire to have you confine your discussion to facts, to give in a concise manner your specific opinion and current company action. I therefore ask that you confine your remarks to the question under discussion. I am sure that everybody will appreciate brevity and strict adherence to the point under discussion. If it becomes necessary to close the discussion on any one of these topics before we have exhausted all of the good ideas which might be presented, I know you will realize that I do so in order that we may cover the six topics I have mentioned. If we have any time left after we get over these topics, we will pick up your unanswered questions at that time.

Without further ado we shall go into the question of the insurability of diabetics. Inasmuch as Dr. W. J. Allison, who is medical Director of the Southwestern Life of Dallas, Texas, has, I believe, accepted diabetics over a longer period than any other company that I know of, I thought that he would be an appropriate individual to open the discussion on this subject. Dr. Allison!

DR. WILFRED J. ALLISON—The Southwestern Life has been accepting the careful, controlled diabetic since December, 1940. Originally we did not take any diabetics below age 17 and accepted from $1,000 to $20,000 at Table D on Twenty Payment Life or higher premium plan on individuals whose contract would endow or mature not later than age 55. At this time we did not require either electrocardiogram or X-ray of the chest. In recent years, however, we have been taking diabetics for a minimum of $5,000 and a maximum of $30,000 from ages 10 to 60 on Ordinary Life or higher premium plan

at a rate not less than 200 per cent of the normal rate. Whether or not on insulin, these individuals must have periodic check-ups by a physician well qualified to treat diabetes, he or she must be within the weight limits for standard insurance, must not require over 60 units of combined insulin per 24 hours, must otherwise be in good physical condition and must present a normal current electrocardiogram and chest X-ray. We prefer to postpone the newly discovered diabetic for a minimum of six months to determine the severity of his disorder, and whether or not he proves intelligent and co-operative.

Diabetics now come to us by trial form for a minimum of $5,000 insurance with a resume from the attending physician. If recent fasting and postprandial variations have not been determined, we may require one or more blood samples but do not require glucose tolerance test. For example, if a co-operative diabetic has maintained satisfactory regulation for the past several years on 40 units of protamin zinc and 10 units of regular insulin daily and both he and his doctor know that either he is continuing with a sugar-free urine, or spills only small amounts occasionally, we should ask for no more than a fasting and a two-hour postprandial determination. If the attending physician has made such studies within the past year and they are satisfactory, we should not even require these. No doubt we have irked some busy physicians in asking for these studies but I think we have also made them pay closer attention to some of their diabetic patients, especially to those who have glycosuria when examined for life insurance. If a physician has never determined the renal threshold for his diabetic patient, we suggest that he do so. For this reason alone we ask laboratories, in doing glucose tolerance tests on questionable cases, to check blood values with time intervals and urinary excretion so that the attending physician will know approximately the level at which the patient begins to spill.

We inquire of all attending physicians as to whether or not they have made a cardiogram or chest X-ray recently and if

such studies have been made, we ask to have them sent to the Home Office. I recall two instances in the past eight months where statements from attending physicians outlined the patient's satisfactory progress regarding his diabetes and futher communication before authorizing examination revealed quite abnormal electrocardiograms already in the patient's file.

We do not issue accidental death or disability benefits to diabetics. If any other ratable impairment makes the total over 300 per cent, we make no attempt to classify further. We do not accept an individual who has had over one episode of threatened coma since beginning treatment.

We have also insured a few individuals classified as potential diabetics. Such applicants were found to have transient glycosuria, a high postabsorptive curve and peak values at either one-half or one hour of 200 mgs. per cent and higher, but also showing rapidly declining curves with two hour values at 120 or below. Realizing the limitations of the oral glucose tolerance test, we are aware that some non-diabetic individuals may show a declining curve but still have a two-hour value of more than 120 mgs. per cent. We recognize that a very mild diabetic may exhibit extreme values in performance of this test. In questionable cases we may extend the test to three or even six hours. For purposes of selection we have not discarded the idea that the peak of the curve is of no significance. In some instances we have either the attending physician, the examiner or the laboratory instruct the applicant to avoid fats and to take 200 gms. of glucose in excess of regular daily diet for two days prior to repetition of the test. No doubt we have made some errors in classification and will continue to do so. These individuals whom we have accepted at Table B have at least a temporarily impaired glycogenesis and therefore an impaired glucose metabolism. We have not studied liver function in this connection and have not used the intravenous glucose tolerance test.

We have accepted a few individuals who were said to have hyperinsulinism—all at the standard rate. So far we have encountered none with fasting or six hour values below 70 mgs. per cent.

In handling to date slightly less than 200 diabetics, we have accepted approximately 75 per cent of those recommended by their physicians. The average age at entry is 38. One at age 10 and one at age 17 are the youngest. The average age at entry of a very few potential diabetics is 41. So far there has not been a claim in either group.

I have no doubt that in due time more significant figures from larger companies will be available and that a more scientific handling of the problem will be in general use.

CHAIRMAN ROBINSON — Dr. R. C. Montgomery, Medical Director of the Manufacturers' Life of Toronto will continue the discussion. Dr. Montgomery!

DR. RICHARD C. MONTGOMERY—Dr. Robinson said something about two or three minutes, so I therefore took the liberty of setting down what information we had on paper, and this has been given to you.

I would like to congratulate Dr. Allison on his summary of his handling of these people. We follow pretty well the same practice that he does. When we decided to go into this field we did not have anything to go on and we merely picked out the figure of 200% such as he has used. The actuary thought that $10 was a good round figure and, therefore, we said that anybody we take we will charge an extra premium of $10 per $1,000 and this we have followed, no matter what the plan. Now I have set down on paper, as I have said, what we have done so far and you can read most of that stuff at your leisure.

Unfortunately, there is nothing there to help us very much as no one has died. However, that doesn't prove very much. There is one interesting factor which I haven't recorded, and that is concerning blood pressure. We decided that anyone

MANUFACTURERS LIFE INSURANCE COMPANY
UNDERWRITING DIABETICS

HISTORY

The underwriting of diabetics was commenced in 1939 but the majority of this business was written during the last five years.

UNDERWRITING BASIS

Age 25–60 male and female who have been under regular supervision for at least three years and are well stabilized.

Plan — Ordinary Life par or better.

Extra — minimum $10.00 no matter what plan
Age 25–30 — extra $15.00 per M
" 30–45 — " $10.00 " "
" 45–60 — increased over the $10.00 by $1.00 for each year of age over 45.

Amount — $25,000.

Special requirements — Ekgm. and 6' plate if 50 years of age or over, or if amount is over $10,000 at any age.

PROCEDURE

Branch Office submits applicant's questionnaire as well as the inspection tickets.

Company has a questionnaire completed by the applicant's doctor and orders special diabetic inspection.

Company authorizes examination, quoting probable extra.

THE MANUFACTURERS LIFE INSURANCE COMPANY

Statistics on Business in Force on Diabetics as at September, 1946

Number insured — 280 Amount — $2,750,900	Total extra premium — $63,150 Average — $12.00 per M

AGE		OCCUPATION	
20–29	29 policies	Executives	116
30–39	117 "	Physicians	24
40–49	102 "	Salesmen and agents	22
50–59	28 "	Retail stores	20
60–	4 "	Accountants	14
Insurance in force largest in 40–49 group — $1,130,000.		Lawyers	12
		Chemists	7
		Teachers	5
		Engineers	6
		Watchmakers	4
		Others	50

NET WORTH OF APPLICANT		INCOME OF APPLICANT	
under $10,000	91	under $10,000	177
over $10 – 50,000	138	over $10,000	103
over $50,000	51		

UNITS OF INSULIN TAKEN

Units	Number of Applicants	Average Units of Insulin
0–25	128	6.8
25–50	96	37.6
50–	56	62.5

Included in first group are 76 who took no insulin. Largest amount taken — 88 units. Overall average — 28.5 units.

WEIGHT		DURATION OF TREATMENT BEFORE INSURANCE	
Overweights	104	shortest	less than 1 year
Underweights	171	longest	30 years
Mean weight	5	average	9 years
This includes three—50 lbs underweight one—60 lbs. overweight			

DECLINED CASES

Reason	Number	Reason	Number
Not well supervised	11	Age	1
Blood pressure	6	Heart murmur	1
Ekg.	6	Coronary	1
Habits	3	Enlarged heart (x-ray)	1
Insulin — too much	3	T. B. chest	1
Albumen	2	Others	4

THE
MANUFACTURERS LIFE
INSURANCE COMPANY
Head Office . Toronto, Canada

DIABETIC QUESTIONNAIRE

To be Completed by Applicant

NAME _____ Date of birth _____

RESIDENCE _____

1. Occupation _____ Former occupation _____
2. Height _____ Weight _____ Weight two years ago _____
3. Date Diabetes diagnosed _____
4. Name and address of Doctor making the diagnosis _____
5. Are you receiving treatment or under medical supervision now? _____
6. Give name and address of Doctor _____
7. Do you ever stop the insulin or go off diet _____
8. Is urine sugar free? (a) New _____ (b) Always _____ (c) Date of last test _____
9. Have you had any blood sugar estimations done? _____
10. If so, when and what were the fasting estimations? _____
11. What is the diet at present? Protein _____ gms. Fat _____ gms. Carbohydrates _____ gms.
12. Is the diet weighed or estimated? (a) weighed _____ (b) estimated _____
13. State amount of insulin taken daily _____ units. Type—Plain _____ units.
    Time of administration _____ Protamine Zinc _____ units.
    Globin _____ units.
14. Have you ever had any infections, such as boils, abscessed teeth, tonsillitis, etc.?
    Specify _____
15. Have you ever had any eye trouble? _____
16. Have you ever had heart trouble? _____
17. Have you ever had high blood pressure? _____
18. Have you ever had any recurring or prolonged illness? _____
19. Has an electrocardiogram been taken? _____ Date _____ By whom _____
    (If cardiogram has been taken in the past, submit copy which will be estimated.)
20. Was the E.K.G. normal? _____
21. Has an x-ray of the chest been taken? _____ Date _____ By whom _____
22. Was the x-ray normal? _____
23. Amount of insurance contemplated? _____

Date _____ _____
Signature applicant.

Dr. _____

I hereby authorize THE MANUFACTURERS LIFE INSURANCE COMPANY to obtain from you an abstract of your records, including treatment, diagnosis and prognosis.

Thank you, for this courtesy.

Date _____ _____

_____ _____
Witness.

Form 1[illegible]. [illegible]-7-46. T. 17[illegible]

THE
MANUFACTURERS LIFE
INSURANCE COMPANY
Head Office . Toronto, Canada

DIABETIC QUESTIONNAIRE

To be Completed by Attending Doctor

NAME ..... Apparent age .....

RESIDENCE .....

1. Occupation .....
2. Height ..... Weight ..... Weight two years ago ..... Weight 5 years ago .....
3. Does this patient visit you regularly for supervision? .....
   Date of last visit ..... Date of first consultation .....
4. What is the diet at present? Protein ..... gms. Fat ..... gms. Carbohydrates ..... gms.
5. How is the diet measured? Weighed ..... Estimated .....
6. How much insulin is taken daily? ..... units. Type—Plain ..... units.
   Time of administration ..... Protamine Zinc ..... units.
   Globin ..... units.
7. How much insulin was taken previously? ..... a year ago ..... 2 years ago .....
8. Has the patient had any insulin reactions? ..... When? .....
9. Does the patient follow your advice consistently? .....
10. Over a period of years has there been a gain or loss in tolerance? .....
11. Is the fasting urine free of sugar? .....
12. Fasting blood sugars. Give dates and estimations of recent tests. .....
13. Are there any changes in the eye grounds? .....
14. Is there any evidence of (now or in past):
    (a) Pulmonary tuberculosis? .....
    (b) Heart disease? .....
    (c) Any recurring or prolonged illness? .....
    (d) Infections such as boils, infected teeth, tonsils, etc.? .....
    (e) Any abnormality of palpable arteries? .....
15. Is there a good pulsation in posterior tibial and dorsalis pedis arteries? .....
16. What is the highest blood pressure reading recorded? ..... When? .....
17. Has an Electrocardiogram been taken? ..... Date ..... By whom .....
    If cardiogram taken, submit copy. (This will be returned.)
18. Was the E.K.G. normal? .....
19. Has an x-ray of the chest been taken? ..... Date ..... By whom .....
20. Was the x-ray normal? .....
21. Do you consider the patient a mild, moderate or severe diabetic? .....
22. Further comments .....

Signature attending physician.

Date ..... Address.

Form 1[illegible] 1[illegible]-[illegible], T. ([illegible])

qualifying as a diabetic should have no impairment other than, perhaps, some over-weight, and we, therefore, set the limit of blood pressure as 140/90. In looking over our blood pressures I find that we did take one individual whose blood pressure was 145/85. The lowest recorded was 90/60; the average 121/76.

I have included in these papers the questionnaires which we used. We first get information from the applicant himself because if he is a well regulated diabetic he has a perfectly good idea of what he is doing, and we sometimes were able to weed out individuals we felt were not insurable. When the replies to the applicant's questionnaire are satisfactory we send our questionnaire to the applicant's doctor and when that is received we are in a position to advise our branch office as to the amount of extra which will be charged. Whether $10 is right or not, I don't know—that remains to be seen, I guess. However, we propose to carry on in that way. These diabetics are taken pretty well on an individual basis. We look at each one carefully and if there is any factor whatever which we think is important, we change the plan from Ordinary Life to Twenty Years or increase the extra from $10 to a higher rate.

I went over the declined cases and found that we had declined about 20% of those submitted to us. Of these declined cases, you will note, we declined 11 for not being well supervised and about one-third of the total we declined for blood pressure and other cardiac abnormalities.

Another thing that I think is important is that we ask for a cardiogram six foot plate on everybody who wants more than $10,000 or who is 50 years of age or over. Thank you.

CHAIRMAN ROBINSON—I believe that recently the Lincoln National decided they would experiment in the field of insurance in diabetics and I, therefore, asked Dr. W. E. Thornton, Medical Director of the Lincoln National Life if he would make one or two comments to us regarding their attitude and current practice. Dr. Thornton!

DR. WALTER E. THORNTON—It is but a few weeks ago that the company which I represent issued its first policy to a known, frank diabetic. This period is so short that I should stand in some embarrassment, and I hope you will believe me sincere when I tell you I would not be doing so had not the Chairman of this forum, Dr. Robinson, invited me to make these comments. However, we have given considerable thought to the impairment over a period of months and have formed some opinions which I trust may be of interest to you.

I think when a company embarks upon the field of insuring frank diabetics, they should agree that, in this insulin age, well treated diabetes has an excellent clinical prognosis. The once familiar diabetic coma is now rare. There is still some extra mortality from degenerative disease but even this is believed confined to those cases, the treatment of which is indifferent and careless.

From such a theoretical background the group indices for purposes of insurance classification seem clear.

(a) Definite clinical or laboratory diagnosis, otherwise the case is treated as one of glycosuria.

(b) Classification as to severity is judged
  (1) from the daily insulin requirement (if any)
  (2) from the diet formula

(c) The expertness of the physician attending as judged from his qualifications.

(d) The care and constancy in the treatment as reported by the attending physician.

(e) Such evidences of complicating degenerative disease as may be found or suspected from findings in the examination or other parts of the application.

If we, as an individual company, are making any special contribution to the handling of diabetics as insurance risks, it is in our efforts to simplify the procedures involved. We are not using special blanks for the purpose. We are attempting to handle these cases as we handle most impairments as

far as forms are concerned. The critical information I have referred to above, we get by adding only four special questions to our regular Family Physician blank. Thus:

(1) The total amount of insulin (all types) taken per day?

(2) Diet formula?

(3) Is the patient co-operative and meticulous in treatment?

(4) How long has he been under the care of a physician for Diabetes Mellitus?

Already we have found that we must make a change. We must reword question No. 2. Too often our informants are giving only the caloric contents of the diet. We must ask them specifically for the protein, fat and carbohydrate distribution.

That there will be further changes, I have no doubt. Our efforts to be brief may defeat our purposes. We shall know in another few months.

In conclusion I would like to join in complimenting Dr. Montgomery and Dr. Allison in their courageous pioneering in a difficult and complex impairment.

CHAIRMAN ROBINSON—I believe it was in June of this year that I announced to the Connecticut General Field Force that we would consider diabetics and I told my very able associate that it was his problem to tell us what he is doing with them. Dr. Barker!

DR. NORMAN J. BARKER—During the past year, the Connecticut General announced a program of substandard life insurance for diabetics, male and female, ages 10 to 60, on permanent plans of insurance without benefits and for amounts of $2,500 to $25,000.

We require a preliminary inquiry form and a diabetic questionnaire completed by the applicant which includes an authorization to the attending physician. If we are interested in

giving the case consideration, we communicate directly with the attending physician and ask him to complete a questionnaire for which we allow a fee of $5.00. If on this evidence we are willing to entertain an application, we authorize an examination and make an offer covering the amount, plan of insurance and approximate rating.

For underwriting, we divide diabetics into four groups.

Group I—Good economic grade, family and personal history and habits; average weight, blood pressure under 140/90; diabetes of comparatively short duration and mild in terms of daily insulin requirements; faithful and intelligent use of insulin and diet which must include an adequate amount of carbohydrate. The urine must be sugar-free most of the time with a satisfactory fasting blood sugar level; no history of coma or other diabetic complication and good peripheral circulation. Applicants under age 35 must have had an X-ray of the chest and over 45 an electrocardiogram within a year. All must be under regular medical supervision. Applicants who qualify in this group are offered any of the Company's permanent plans of insurance with a mortality rating of 200% to 250%.

Group II—Diabetics who fail to measure up to the standards established for Group I in possibly one or two respects are offered any of the Company's permanent plans of insurance at mortality ratings of 300% to 500%.

Group III—Applicants with long standing diabetes but who are otherwise acceptable may be offered a plan of insurance maturing in fifteen years at ratings of 300% to 500% and a limit of $10,000.

Group IV—We do not feel that we can insure diabetics of poor economic or industrial grade, with poor family or personal history, diabetic complications or other rateable impairments; or those with very severe diabetes and little or no medical supervision; who are careless in the use of diet or insulin, with high fasting blood sugars or constant glycosuria in large amounts indicative of poor control.

In such a new field, we have obviously been obliged to set up somewhat general rules for the underwriting of diabetics. With experience, we hope to be able to establish more definite standards of selection. In the very short time our program has been in operation, it has been possible for us to offer life insurance to a large number of diabetics and on a basis which we feel is fair both to the policyholder and to the Company.

CHAIRMAN ROBINSON—My watch says that we have spent twenty-three minutes on it and the President reminds me that we have spent twenty-three minutes. I would like very much to have an open discussion of this question of diabetics. I hope we will have it at the end of our forum but in order to cover the topics that we propose to cover I am going to take the liberty of going on to the next question *"Under what circumstances do you insist upon an attending physician's statement?" "How do you obtain it and what do you pay for it?"* and I have asked Dr. Chester T. Brown, Medical Director of the Prudential, to give us their practice. Dr. Brown!

DR. CHESTER T. BROWN—The practice to obtain an attending physician's statement is one of a number of procedures to procure an accurate knowledge of an applicant's insurability. No fair-minded person should object to the procurement of complete and dependable information which has for its objective a protection of the company on the one hand, and a fair and willing attitude on our part to clear up doubtful features which otherwise might result in unfairness to both the applicant and the agency.

For approximately fifteen years, we have been asking for attending physician and hospital statements, paying respectively $2 and $5 for them, and the forms we use indicate the fees which will be paid. With the thought that one cannot predict from the answers to questions on the application whether the answer refers to a trivial or important cause for medical attention, a rule was set requiring physician's statement for

amounts of insurance of $25,000 or more for applicants of 40 and under, and for amounts over $5,000 for applicants over 40 years of age. As the years passed, our experience encouraged us to believe that it would be advantageous to broaden these limits of requirements, so that now statements are requested irrespective of amounts and whenever so decided.

There are some sorts of answers in the application which seem, automatically, to cause physicians' statements to be requested. Two such statements by applicants are outstanding in frequency and often presage an unfavorable circumstance. These are "just a physical check-up" and "for a cold," when the actual symptoms or findings turn out to be chest pains, and moderate hypertension or similar ominous circumstances.

Statements which are of most value are those which I call "spontaneous," that is, those which we request directly from the Home Office, the request being addressed to the attending physician and which come directly to us without the agent's or applicant's assistance. Otherwise physicians' statements are apt to be less accurate and modified on the side of gentleness. Statements in the form of an attending physician's letter written prior to and accompanying the application to the Home Office are likely to be of an over-benign quality.

Naturally, the request for statements is likely to delay action on an application and much time could be saved were the request to go directly to the agency. We avoid such a procedure as much as possible, resorting to agency assistance only after a second request to the physician fails to bring in a statement. In the large cities where we have Medical Referees, statements usually are requested by the Referee who has an opportunity to telephone the physician and get the substance of the applicant's history.

Unquestionably, these two to three hundred statements which we receive monthly are a benefit to our mortality experience, giving us knowledge of impaired risks and strengthening our assurance concerning good ones.

CHAIRMAN ROBINSON—There is a rather small company down here in New York. They call it the Metropolitan. I asked Dr. Bonnett, their Medical Director, to give us his practice with respect to Attending Physicians' Statements. Dr. Bonnett!

DR. EARL C. BONNETT—In the Metropolitan Life Insurance Company, we insist on such statements:

1. To establish definite dates, durations, and diagnoses when information secured from the applicant is contradictory or not clear-cut.
2. When a person has had a "check-up examination" and it does not appear from the application that this is a routine procedure.
3. When a person has had an operation, the cause for which is:
   a. "Unknown"
   b. "Minor" but the resulting incapacity is disproportionate to the alleged nature of the operation.
   c. Apparently of such a nature that the surgeon prefers not to disclose it to the applicant. These include stomach, bladder, rectal, or serious gynecological operations particularly at the older ages. In such cases, we prefer hospital statements with the additional information about the laboratory and pathological findings which they should contain.

Method: We send our form to the District Office with the request that the Agent secure the applicant's authorizing signature and then mail the form to the doctor or hospital making sure that the address of the doctor or hospital as taken from the application is accurate. The form, when completed by the doctor or hospital authority, is returned directly to the Home Office in a self-addressed stamped envelope. Our fee for this service is $2, but where we know that hospitals have a different standard charge, that fee is paid.

In our experience, the proffered fee seems acceptable in the majority of cases. If we were to consider any increase in the

fee, we believe that the fee paid for a hospital statement should be $5 and for a physician's statement not over $3.

We occasionally write directly to an applicant asking him to provide us with a statement from his doctor, or a diagnostic film, and in such cases, we usually stipulate that the information is to be received at no expense to this Company.

We receive about 75% of the statements requested, but the delay is considerable. To be worthwhile and justify the time and expense of securing it, supplementary information must be detailed, accurate, and promptly forthcoming. One category of such supplementary information is a statement from a doctor's or hospital's records.

CHAIRMAN ROBINSON—It seemed to me that we might go to the Mid-West and pick on somebody that wasn't quite as large as the Metropolitan, so I ask Dr. Simmons, who is Medical Director of the Equitable of Iowa, to tell us his practice. Dr. Simmons!

DR. RALPH R. SIMMONS—I surmise that I was asked to discuss this subject since our Company uses very few forms for obtaining information from the applicant's personal physician.

We have felt that our best approach to the personal physician was by a "tailor-made" letter signed by a Medical Director. We feel that any request to the personal physician should be predicated on a real need for additional information and that this request should never become a routine procedure to be put into the hands of a clerk. We do not encourage our General Agent or Soliciting Agent to request information from a personal physician, in anticipation of our needs, since we have found that these requests rarely cover, in sufficient detail, our underwriting needs.

We ask for reports where additional information is required regarding the diagnosis of a condition, the dates upon which this condition occurred, where additional clarity is required for the proper classification of the disorder, where we feel that an additional check is required because of a possible

inaccuracy in the applicant's declaration, to obtain details regarding an impairment suggested through outside sources and not reported by the applicant or finally, to obtain reports on special studies or consultations such as electrocardiography, X-ray, etc.

I am especially interested in the activities of the committee headed by Dr. Ungerleider, in suggesting standardized forms of inquiry as requested by the American Medical Association. I believe that this committee has a difficult task to perform, since as stated earlier in my remarks, we have not, as a Company, subscribed to the use of forms in obtaining information from the applicant's personal physician. We have not been able to employ any general form for letters of inquiry that we personally felt would be effective in all cases. We trust that the Committee will be successful in its efforts and we will be glad to use such standardized forms as they may recommend.

CHAIRMAN ROBINSON—The boys are really doing pretty well. I told them, "Don't you dare to come up here and talk longer than five minutes!" I am going on, with your permission to the next topic which I have outlined, namely, the "Prudential Concept* of the Necessary Ratings for Personal or Family History of Pulmonary Tuberculosis or Exposure to this Disease" and I have asked Dr. H. W. Dingman, Medical Director of the Continental Insurance Company, to give us his comments. Dr. Dingman!

DR. HARRY DINGMAN—The Prudential has done the insurance fraternity a service in challenging our concepts of how to appraise the tuberculous. The Prudential knows, and you know, and I know that tuberculosis was the No. 1 cause of death in the 20's, and the No. 2 cause in the 30's and the No. 3 cause of death in the 40's. We can well give a little time and thought to this subject. Their rationality is in brief that

*The Record, American Institute of Actuaries, Volume XXXIII, Pages 319-93; XXXIV, Pages 92-113

tuberculosis, being an infection, is a contagion, and the whole hazard is in *contact*. Forget age, forget family history, forget recency of attack. It's infection.

The second point is that the diagnosis can be made by X-ray and there, their case rests. They want us to pin our faith on X-ray.

It seems to me very dangerous to forget age. Age proves, if nothing else, that survival to middle age means ability to defeat infections that kill the weak. My grandfather, if living at his age, renounces no rights to acquire tuberculosis. But he resists the disease better, and longer, and tuberculosis is slower to kill him. To say, "Forget Age" sounds illogical.

Weight proves, if nothing else, that overweights, on average, are better nourished than underweights. Undernourished persons pick up tuberculosis or any other infection, more readily than well nourished persons. Sound logic tells you the which. And experience. Experience is abundant, insurance experience especially.

Forget family history? At your peril. Few Man-O-Wars come out of truck horses. Few strong lunged persons out of weak lunged persons. And if you emphasize the environmental factor as compared to the hereditary, what then? Tuberculosis is a disease of the poor, poor in pocketbook, poor in physique. And those who are poor in pocketbook and physique come, on average, from parents who are poor in pocketbook and physique. If you argue contrarily, read insurance experience.

With regard to recency of history, by orthodoxy of experience, wait two years and make your appraisal. By Prudential heterodoxy, wait two years and reject, wait five years and reject, wait eight years and say, maybe, if the applicant had a moderately advanced case of tuberculosis. Continental solicits those rejects.

Prudential emphasizes that X-ray is an excellent adjunct to diagnosis. It is, but uncertain. "Suspicious film findings

must be corroborated by a positive tuberculin test and by positive bacillary findings." So said Hilleboe. "We have seen so many errors made that we now accept nothing except a complete examination of which the X-ray film is only a part." So said Myers. Many lung lesions cause no shadows because they do not calcify. Calcified lesions, easily seen, are relatively unimportant. Soft lesions, easily missed, are truly important. Histoplasmosis, a pulmonary fungus infection, causes lesions often mistaken as tuberculous. Myers sees the hazard of misinterpretation. Perhaps we should also. It was Myers, also who said that chest examinations of children are almost fruitless.

X-ray is an excellent adjunct to diagnosis. But expensive. Multiple pictures are oftentimes necessary. Prudential can afford it, to the profit of all of us. Of 16,150 National Guardsmen and Selective Service registrants, average age 25, in southern New York, 70 had possible active tuberculosis—230 chest studies to uncover one case, many requiring repeat pictures.

Prudential concept of insurability of the tuberculous has jolted our complacency. Annie May Lyle has presented the case magnificently, as of course she would. Even though wrong, if wrong they are, Prudential has made us think. Many of us do too little of that sort of thing, seems like.

CHAIRMAN ROBINSON—I have asked Dr. Weaver, Associate Medical Director of the Penn Mutual, to comment further on this topic. Dr. Weaver!

DR. ROBERT L. WEAVER—I quite agree with Dingman in many respects. I think he has covered the subject very well. I think that Miss Lyle has done more than just make us think. I think Dr. Homan in 1936 warned us of the changing concepts in tuberculosis. I think Miss Lyle blasted us again in 1944. I think it is time that we changed our ratings.

Unfortunately, I don't feel too well qualified to comment on the Prudential ratings, as I have not been in a position to

apply them and I have not made any comparative studies. I can only tell you what we are doing at Penn Mutual, which is probably a great deal more conservative than many of you are doing today.

First of all, in every case as far as possible we are getting X-ray films, probably a series of X-ray films, and we draw no line as to the amount. We may get them on a $1,000 case as readily as on a case involving $25,000 or over. We believe it pays. Naturally, we are not accepting any cases where there is a multiple involvement, that is, of different organs. In the multiple cases and the moderately advanced cases we are allowing credits for X-ray films which show calcification over and above the old ratings which were proposed according to age, build and history. I don't know that this is too good a plan but it is the plan we work on. Personally, I am greatly in favor of the Prudential ratings, and I shall be interested in seeing mortality studies in the future.

In regard to exposure, family history, we naturally are considering exposure, and only accepting children when exposure could not have taken place, where the disease was apparently arrested before the child was born, or it was stopped, or the child can show a negative tuberculin test or a negative X-ray. We are treating primary calcifications very similarly to the Prudential, debiting not at all for the isolated calcification. Where the calcifications are numerous and extensive the rating is about thirty-five. We are not accepting any lesions which in our estimation will rate over 125 additional mortality.

I think that pretty well covers our practice. I might add that we have been very fortunate in securing a series of X-ray films from attending physicians in hospitals; and on the subject of statements we do find that a personal letter to the doctor or hospital guaranteeing a fee is very productive. I am amazed at the response and the co-operation has been extremely good. Thank you!

CHAIRMAN ROBINSON—Continuing the discussion of the same subject, we will hear from Dr. Beard, who is Assistant Medical Director of the Mutual Benefit. Dr. Beard!

DR. J. RANDOLPH BEARD—I feel that the thoughts emanating from Dr. Kirkland's paper are pertinent and important. From a public health standpoint and the intracacies of statistical studies, it would appear that tuberculosis was a minimal hazard, for one is taking a cross section of population; a mortality rate. The figures presented by Lyle in 1944 on the Prudential study on cases of tuberculosis among their employees, and the Metropolitan studies along the same line, paint a gloomier picture. The fatality rate is high. I agree with Dr. Kirkland that insurance companies have placed too much stress on underweight at younger ages, and treated overweight, normal weight and the older age group too lightly in contact or exposed cases. The underweight individual is no more susceptible to tuberculosis than any other group, all other factors being equal. The Medical Impairment study of 1929 followed a traditional stage in the approach to tuberculosis. I definitely feel that another study is in order with an eye to the modern concept of the disease and the more up-to-date methods of treatment. The general population is better educated and the tendency is to make the diagnosis earlier. These facts should lead to some liberalization on the incipient and minimal cases. I do feel that X-rays are a necessity in evaluating applicants who have had tuberculosis or a history of exposure to the disease. In the latter group, I feel that more detailed information as to the extent, contact, surroundings and the like are also of primary importance. The tuberculin test is a medical nicety which we cannot expect in the insurance field until the populace has had a greater education in preventive medicine. Mass X-ray studies and tuberculin studies which are ever increasing will be of invaluable aid to underwriting, provided accurate reports are available. Since the Mutual Benefit Life Insurance Company writes only standard insurance, our present interest is twofold, is the applicant insurable

or not. We have adhered closely to a ten year waiting period, always call for a recent X-ray of the chest and obtain as many of the previous X-rays as possible. In applicants under 18, with a history of exposure, we decline until after the 18th birthday and also require an X-ray of the chest. A quick glance at the Prudential rating table gives the impression that it is rather severe. However, in light of the Prudential and Metropolitan studies on employees, the table is conservative. When one considers that these employees had the benefit of the best of care, the outlook for the run of the mill tuberculosis case is rather perilous.

In summary, I feel that mortality figures have possibly lulled us into a false sense of security. Dr. Kirkland's paper should certainly furnish food for thought for a more modern approach to tuberculosis underwriting, the necessity for a new medical impairment study, more attention to contact or exposure rather than build and age, and the absolute necessity for X-ray studies in the applicant with a personal or family history of tuberculosis. There are so many uncontrollable factors that each case has to be underwritten on its merits. I do feel that a revision of the overall picture in the light of new concepts might lead to some liberalization in certain classifications of the tuberculous applicant.

CHAIRMAN ROBINSON—I sense that there are very many questions in the audience but I am doing so well on my time schedule that I am going to ask you to give me the liberty of pushing this thing along. Our next question is: *"Should a Q R S of Less Than 5 mm. In An Electrocardiogram Which Is Otherwise Satisfactory Ever Be Accepted Standard, Or If Offered Substandard, At What Rating?"* It seemed to me that because Dr. Birchard, who is Chief Medical Officer of the Sun Life of Canada, is not only an experienced Medical Director but also an extremely competent cardiologist in Montreal, he would be a very good person to open the discussion on this subject. Dr. Birchard!

DR. CECIL C. BIRCHARD—There are two approaches in formulating an answer to the conundrum which may be accounted as plausible, one entirely empirical and based upon impressions gained from clinical observation, and the other deducible from accepted theories as to the how and why of the electrocardiogram.

First, one must ask the protection of a number of assumptions:—For instance, that the patient is of normal build and without deformity of the chest and that he is not unduly overweight; also, that the observer have available to him unipolar leads made from the chest wall, at least three of these, and made from positions 2, 4 and 6, or alternatively, from 2, 4 and 5. One does not demand unipolar leads made from the limbs though personally I would like to have them.

In any given electrocardiogram exhibiting low voltages of the Q.R.S. deflections of the standard leads, there are, I believe, certain attributes which modify the significance of the finding and these have to do with the normality of the Q. R.S. deflections and the T. deflections in the unipolar chest leads. Also, I should add, normality of the T. deflections in the standard leads.

In electrocardiograms exhibiting low Q.R.S. voltages in the standard leads, the maximum voltages less than 5 mm.:—As a general thesis I would account these as not significant, provided the T. deflections were of reasonable voltage in the standard leads and Q.R.S. deflections and the T. deflections entirely normal in the unipolar chest leads. It must be remembered that each of the standard leads is a synthesis of the rapidly fluctuating voltages in the limbs of derivation and that negativity of the one cancels out negativity of the other, and vice versa. I am inclined to argue that this 'cancelling out' process may be excessive in perfectly normal hearts and that normality of the T. deflections in the standard leads and of the Q.R.S. and T. deflections in the chest leads should more or less completely nullify the presumed adverse significance of the low Q.R.S. voltages in the standard leads. This appears

to be reasonable on the basis of theory, and my belief is that it is acceptable on the basis of clinical observation. The standard leads being synthetic, each lead a mixture of electrical components from two limbs, they are not to be given equality of status with the unipolar chest leads. Unipolar leads are more or less 'pure', each being a fairly accurate portrayal of the E. M. F.'s on that aspect of the heart closest to the chest electrode. On theoretical grounds such leads must be accounted as more likely to be consistent with what is happening in the heart. Notwithstanding the generalization just made, I am not prepared to defend low Q.R.S. voltages in the standard leads to any extreme degree.

I would add that in interpreting chest leads one must keep clearly in mind that the value of the chest lead is inversely proportional to the nearness of the point of application to the surface of the heart. Accordingly, leads from positions 4, 5 and 6 may be vitiated by the heart not approximating the chest wall at those points. For instance, with a small vertically placed heart, No. 6 position (in the axilla) will be a long way from the surface of the heart and the E. M. F.'s will be low and not of much value. On the other hand, with a transversely placed heart, particularly if it is enlarged, the No. 6 position may be expected to give fairly accurate portrayals of the E. M. F.'s on the left ventricle and, accordingly, in such patients this lead is of very great value. Another factor is the thickness of the parieties. In a fat female with a large mamma, graphs made from positions 4, 5 and 6 would be more or less unreliable.

CHAIRMAN ROBINSON—I have asked Dr. H. E. Ungerleider, Associate Medical Director of the Equitable Life Assurance Society to continue with this discussion. Dr. Ungerleider!

DR. HARRY E. UNGERLEIDER—Dr. Birchard through Dr. Robinson sent me a summary of the criteria that he proposed, probably just recently, but it seemed to me so excellent, so well conceived, I think I ought to read it to you, although it

isn't part of my discussion and I did not intend to read it. He states as follows:

"(a) Q.R.S. voltages of 4 mm. to 5 mm., no unipolar chest leads in the record:—Postpone pending receipt of record showing three standard leads and three unipolar chest leads.

(b) Q.R.S. voltages of 4 mm. to 5 mm. in the standard leads, and flat T deflections in the same leads, no chest leads in the record:—Decline

(c) Q.R.S. voltages of 4 mm. to 5 mm. in the standard leads with normal T deflections and three normal unipolar chest leads:—Accept without question.

(d) Q.R.S. voltages of 4 mm. to 5 mm. in the standard leads, flat T deflections in Leads C.F. 2, or C.F. 4 (or, V-2 or V-4) :—Decline
If two of the above mentioned leads be normal and Lead C.F. 6 (or, V-6) depart from normality by having a flat T deflection, I would be inclined to classify the risk as insurable, but 'substandard'. As a guess I would rate at, plus 40 to plus 50.

(e) With Q.R.S. voltages of under 4 mm. it is unlikely that the other attributes of the graphs which have been mentioned above will approximate normal and I should say that as a general proposition these cases should be declined.

In taking account of the size of the Q.R.S. deflections in the standard leads and also in the chest leads, one should not lose sight of the fact that females tend to have lower electrocardiographic voltages than males and, of course, fat persons lower than those with relatively thin chest walls. Other factors too, and not intrinsic to the heart and about which little is known, affect the size of the deflection."

I commend that classification to you now. My particular discussion of this will be extremely brief.

I agree with Dr. Birchard that low voltage of the Q.R.S. calls for careful scrutiny and that additional electrocardio-

graphic information such as is derived from serial precordial leads is of great value. There has been an increasing tendency to minimize the significance of low voltage of the Q.R.S. complex, particularly when the voltage is only moderately low, i.e., 5 to 7 mm. Very low voltage below 4 mm., as Dr. Birchard indicates, cannot be disregarded. Such extreme low voltage almost certainly denotes heart disease.

It is worth noting that low voltage of the Q.R.S. can be due to a number of factors which we may mention. Among these are:

Myocardial disease
Myxedema
Pericardial effusion
Chronic adhesive pericarditis
Emphysema
Pneumothorax
Pleural effusion
Edema of the chest wall, and anasarca
Scleroderma
Obesity

It is evident, therefore, that although low voltage of the Q.R.S. complex of 4 to 5 mm. admittedly may occur in normal individuals such a finding dictates careful clinical, and not only additional electrocardiographic, scrutiny. Any of the above abnormalities is a serious impairment. Since true low voltage of the ventricular complex in the limb leads is a rare finding in normal individuals, I do not believe we can lightly dismiss this finding. A careful history and report of physical findings, X-ray of the chest certainly, as well as the additional electrocardiographic studies, as suggested by Dr. Birchard, should be available before we dismiss low voltage of the Q.R.S. in any individual as a normal variant.

CHAIRMAN ROBINSON—I have asked Dr. Bradshaw, Medical Director of the Mutual Life Insurance Company of New York to continue and conclude the discussion on this question. Dr. Bradshaw!

DR. WILLIAM M. BRADSHAW—The occurrence of a QRS of less than 5 mm. in all limb leads, as a solitary finding in an otherwise *normal* electrocardiogram is not commonly seen. However, when it does occur, it makes us wonder about its significance.

Recent studies and opinions by cardiologists now recognize that a low voltage QRS is sometimes seen as a normal variation in routine electrocardiograms of healthy persons. At times, it is the result of slight degrees of right and left axis deviation, where the R and S waves tend to equal each other in Lead 2. It is also recognized that the amplitude of the QRS may be influenced by certain physiological factors such as respiration and changes in body position. Five authorities interpreting electrocardiograms define the minimal normal QRS measurement as 4, 5, 4, 7, and 5 mm. respectively.

Two studies of healthy normal adults in the Army and Navy throw light on this subject:

> Among one group of 500 men, the tracing of one individual was found to have QRS waves of less than 5 mm. in in all three leads. (*1*)
>
> Another study of the tracings of 1,000 normal healthy young adults showed 16 instances where the greatest amplitude of the QRS in any standard lead was 5 mm. or less. (*2*)

The commonest pathologic conditions in which low voltage does occur include myocardial damage resulting from coronary heart disease, congestive heart failure from any cause, myxedema or cretinism, acute or chronic pericarditis, some acute febrile diseases, malnutrition, and clinically recognized vitamin deficiency diseases. Fortunately, in each of these conditions there are usually associated electrocardiographic changes of the nature of ST elevations or depressions, or flat, diphasic or inverted T waves.

The occurrence of low voltage QRS in disease states, without the above associated changes, is unusual, but it may occur. In this event, it is necessary either to obtain a significant

clinical history or previous serial electrocardiograms showing that the voltage had been higher but has decreased, before accepting this variation as a diagnostic sign of disease.

Conclusions:

1. Low voltage QRS in an otherwise normal electrocardiogram is at most suspicious, but not in itself diagnostic.
2. In a normal healthy individual, in whom a reliable history and a careful physical examination fail to disclose any finding of present or past disease, low voltage QRS may be accepted as a normal variation.
3. If there is anything in the history or examination which discloses findings suspicious of heart disease, then low voltage QRS must be accepted as corroboratory evidence.

Insurance Action:

1. If the proof is satisfactory that the low QRS is merely a variation of an otherwise normal electrocardiogram, the applicant otherwise being normal in all respects, acceptance at standard rates is recommended.
2. If the low voltage is a manifestation of a ratable disease, such as hypothyroidism or malnutrition, the rating should be for that disease only.
3. If the electrocardiographic finding is a manifestation of some form of heart disease, a declination is indicated.

(1) Quotation from "A detailed Analysis of the Electrocardiograms of 500 RCAF Aircrew" — Stewart, C. B. and Manning, G. W.: Am. Heart J. 27:502–523 — Apr. 1944.

(2) Analysis of the Electrocardiograms obtained from 100 Healthy Aviators — Graybiel, A., et al: Am. Heart J. 27:524–549 — Apr. 1944.

CHAIRMAN ROBINSON—The next question which I thought might be of general interest to our membership was, *"What Constitutes More Than One Attack of Duodenal Ulcer?"* I think we have all had the experience of having an applicant or his physician say that this was a simple, uncomplicated single attack of duodenal ulcer, and then have the company decide that he had two attacks. I hope that, perhaps, we might clarify it,

and I have asked Dr. Rollins, who is Medical Director of the Connecticut Mutual to open the discussion on this question. Dr. Rollins!

DR. HENRY B. ROLLINS—Dr. Robinson's question, "What constitutes more than one attack of duodenal ulcer?" is a pertinent and timely one, first, because of the marked frequency with which we are encountering this problem and, second, because of the multiplicity of factors involved in properly evaluating the history. No discussion is necessary in cases involving (1) hemorrhage, (2) perforation, (3) severe, persistent gastric symptoms, or (4) where there is a crater or a tender and deformed duodenal cap found by combined X-ray and physical examination. The less severe forms of symptomatology (hyperacidity, soreness in the epigastrium, spasm, abdominal distress, dyspepsia, etc.) with borderline or negative X-ray findings present our real problem, particularly so if the attending physician comments that the condition was of little significance.

It is this group that interests us most in determining the answer to the question: Are we merely dealing with a continuance of the original duodenal complex, which is entirely a question of degree, severity, duration, etc., or an actual lighting up of a chronic process?

What about mildly recurring episodes of epigastric distress relieved by self-imposed dietary restriction and medication? Our textbooks speak of the seasonal exacerbations (spring and fall) with relation to peptic ulcer. Are these to be considered as second attacks? This type of history is quite typical of the majority of ulcer patients if carefully questioned, but it is not considered a recurrence either by the laity or by the profession generally.

How about the check-up or follow-up gastro-intestinal X-ray examinations? In numerous instances these are prompted by recurrent symptoms, minimized, however, both by the applicant and by the physician. If the X-ray is now negative,

what are we to do? What about the chronically deformed duodenal bulb on X-ray examination in the absence of any recurrent symptoms?

In attempting to determine what constitutes a second attack, it appears to us that the whole evolution of the ulcer state should be considered rather than the ulcer itself. Today we are stressing the constitutional and psychosomatic aspects of this malady. If this is true, it is by definition a general disorder with a tendency to recurrence and chronicity. As one internist aptly stated, the duodenum is the site of the disease but not the seat of the disease. Secondly, we attempt to secure an accurate history. What were the severity and duration of symptoms? Not every mild digestive upset following a dietary indiscretion is worthy of being called a second attack, nor do we believe that the patient who avoids spicy and greasy foods is necessarily under treatment. Many patients are advised to continue indefinitely the bedtime pill or powder, and we consider this good medical advice. Thirdly, we try to evaluate the type of patient with whom we are dealing. We are all familiar with the fact that severity of symptomatology is not necessarily related to severity of ulcer, and vice versa. How many times have we taken histories profoundly typical of ulcer only to be dismayed by negative X-ray reports? Is this nervous indigestion or hyperacidity? On the other extreme, we have all seen the lumberjack, brought in, in extremis from hemorrhage or perforation, who later boasts of his "iron stomach" and denies any history of indigestion. Obviously these wide variations in subjective symptomatology are not related to the ulcer, per se, but rather to other factors, not the least of which is the sensitivity of the individual. The personality make-up should be evaluated in attempting to assay the severity or significance of the symptoms. Lastly, we must take into consideration the background and training of the attending physician and his qualifications for X-ray diagnosis. Accurate interpretation of fluoroscopic and X-ray examination of the gastro-intestinal tract

requires the utmost skill. The variability in successive X-ray diagnoses on many of these cases cannot be properly explained by the clinical course of the disease, but must be attributed to the variable skill of the operator and technical difficulties. Witness also the wide divergence in opinion in the profession itself as to what constitutes X-ray evidence of ulcer. One school of thought believe that any persistent deformity of the bulb is evidence of ulcer, while the more conservative group hold that the crater of an ulcer must be demonstrated by the barium fleck.

In conclusion, we regret that we have no mathematical formula or strict set of rules to govern what constitutes a second attack of ulcer. We do attempt to analyze each case carefully from the standpoint of these four variable factors. In some cases we believe a diagnosis of a second attack is justified on simply a history of self-imposed regime of diet and medication, if such regime was prompted by typical ulcer symptoms of sufficient severity and duration. I think we should be careful to protect the hypersensitive, conscientious individual who, by meticulous analysis of his symptoms, makes his case appear unduly severe. More often, however, we must be wary of an understatement of the facts, consciously or unconsciously, or by the agent's prompting. The X-ray report is correlated with medical history and not necessarily accepted as the final judgment, but, rather, evaluated with relation to the skill of the operator.

CHAIRMAN ROBINSON—We will ask Dr. Roland A. Behrman, Medical Director of the John Hancock Life Insurance Company of Boston to comment further on this question. Dr. Behrman!

DR. ROLAND A. BEHRMAN—When clinical opinion concerning etiology and cure of peptic ulcer is as uncertain and controversial as is now the case, it is not to be wondered at that we Medical Directors have no simple solution to the problem posed by the topic, *"What constitutes more than one attack of duodenal ulcer?"*

DUODENAL ULCER

				WP	*AI*
Without Operation					
One attack					
Simple attack, acute, short duration, no hemorrhage					
Limit $25,000	0 to 6 months		RNA		
0 to 7 yrs.	7 months to 1 year	1 extra $10 per M		No	No
Limit $50,000	1 to 2 years	1 extra $2.50 per M		No	Yes
8 yrs. and	2 to 5 years		0 to 20	No	Yes
after	5 years and after		Standard	Yes	Yes
Two attacks, or history of hemorrhage, or treated surgically (gastro-enterostomy)					
	0 to 1 year		RNA		
	1 to 2 years		100	No	No
	2 to 3 years		75	No	No
	3 to 4 years		50	No	No
	4 to 5 years		25	No	Yes
	5 years and after		0 to 20	Quest.	Yes
More than 2 attacks					
	0 to 4 years		RNA		
	4 to 5 years		100	No	No
	5 to 6 years		75	No	No
	6 to 7 years		50	No	No
	7 to 8 years		25	No	Yes
	8 years and after		0 to 20	Quest.	Yes

With Operation			
More than one operation			
Decline except if second operation was a sub-total gastrectomy -- treat as sub-total gastrectomy			
History of repeated hemorrhages	RNA		
Recurrence following operation			
Decline under 4 years			
After 4 years — treat as "More than 2 attacks"			
Duodenal or gastric ulcer, treated surgically (sub-total gastrectomy)			
Limit $25,000 Ulcer Form 489 required from attending physician			
0 to 1 year	RNA		
1 to 2 years	100	No	No
2 to 3 years	65	No	No
3 to 4 years	35	No	No
4 years and after	25	No	Yes
Recurrences following sub-total gastrectomy	RNA		

Duodenal ulcers fall somewhat arbitrarily into one of three categories:

First, those that are acute, definitely demonstrable by X-ray, promptly responsive to medical and dietary treatment and not subject to recurrence. These constitute perhaps 10–20% of all cases and are probably better recognized as a group in life insurance medicine than by clinicians since, as patients, they respond as in any acute illness.

Second, those which respond slowly but progressively to treatment of months' or 2 or 3 years' duration and eventually a seeming cure.

Third, those which might be labeled "chronic" where symptoms persist—with remissions—for years, ameliorated while on strict treatment but flaring up with lapse in treatment or on exposure to disturbing psychic factors or perhaps without recognizable cause. In contradistinction to the acute type of ulcer mentioned in Group 1, ulcers in Groups 2 and 3 are the ones so often seen in clinics and which probably account for clinical pessimism as regards a permanent cure.

In any of these groups, where an ulcer has been found by X-ray or strongly suspected even without roentgenological evidence and where there has been complete freedom from symptoms for a period of two years or more following cessation of all but simple dietary precautions, we can assume that a temporary cure has been effected. If, after this period, there is a recurrence of suspicious symptoms, it seems reasonable to us to regard this as a second attack, recognizing, however, that it might be merely a recrudescence of the former ulcer but, in our opinion, nevertheless indicating that the case should carry a heavier substandard rating.

CHAIRMAN ROBINSON—To conclude the discussion on this topic, I have asked Dr. Howard B. Brown, Associate Medical Director of the Massachusetts Mutual to comment. Dr. Brown!

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DR. HOWARD B. BROWN—The diagnosis of recurrent duodenal ulcer is simplified, of course, when there is primary or secondary X-ray evidence or a history of hemorrhage. In requesting a brief discussion, I assume that the Chairman was most concerned with the cases which do not present positive evidence.

Under these circumstances, I feel that we must rely more upon the history obtained from the attending physician than that secured from the applicant. The important feature is the appearance of discomfort whenever gastric acidity is not neutralized. There may be localized tenderness at these times. Usually, the pain is severe enough at some period in the cycle to awaken the patient at one- or two-hour intervals during the night.

When there is an extended history, but no clear evidence of recurrence, we often rate empirically on a two attack basis. These people may have chronic duodenitis with occasional superficial ulcerations.

Spastic colitis does not present a difficult problem in differential diagnosis when accurate history is available, inasmuch as the discomfort in a majority of cases is not rhythmic nor well localized.

CHAIRMAN ROBINSON—Our last subject is Diverticulosis and Diverticulitis. I have asked Dr. F. W. Rolph, who is Associate Medical Director of the Confederation Life and an outstanding gastro-enterologist in the City of Toronto, to open the discussion on this subject. Dr. Rolph!

DR. FRED W. ROLPH—From both the clinical and insurance standpoints the important location for these lesions is in the colon, and more especially the sigmoid colon. Diverticula are herniations of the mucous membrane through gaps in the muscularis; symptomless in themselves they are apt to fill with stagnating intestinal contents, with resulting ulceration and inflammation. They are of rare occurrence under the age of forty, but in later years may be found in about twelve per cent of the population.

Diverticulitis very commonly shows itself in three stages:

(1) With colonic spasm—
Most cases do not extend beyond this, but about twelve per cent go on to
(2) Infiltration or
(3) Perforation and abscess.

The mortality in these severe forms is high, probably ten per cent.

The diagnosis between diverticulitis and carcinoma is difficult, but under the age of forty an obstruction is much more likely to be due to malignancy, and in older ages cancer of the sigmoid is about three times as prevalent as an obstructing diverticulitis.

For insurance purposes, I believe we may usually disregard diverticula, which are not very numerous or large, have not caused symptoms and have been discovered in a routine X-ray, but the milder types of diverticulitis with vague symptoms resulting from intestinal spasm, should not be considered on a standard plan.

Finally we must consider the insurability of individuals who have had one, or more, severe attacks of diverticulitis, and who have been treated either medically or surgically for the condition. In my experience these attacks are extremely likely to recur and constitute an ever present source of danger. I believe that the very shortest waiting period to be considered would be two years and that any policy issued must be quite heavily rated.

Other types of diverticula I shall consider very briefly:

(1) Duodenal.
There are two main types:
(a) Congenital—occurring in the 2nd and 3rd portions and not of much clinical importance unless situated at the duodeno-jejunal juncture, in which situation acute obstruction may occur.
(b) Ulcer diverticula, usually in the first portion and to be considered as duodenal ulceration.

(2) Jejunal.
These are of rare occurrence but may give rise to severe symptoms.

(3) Meckel's Diverticulum.
This is caused by the failure of the vitello-intestinal duct to close and atrophy. It may be the site of inflammation causing intestinal obstruction and in children not infrequently gives rise to peptic ulceration and hemorrhage.

CHAIRMAN ROBINSON—Discussion of this subject will be continued by Dr. Ernest Dewees, Medical Director of the Provident Mutual of Philadelphia. Dr. Dewees!

DR. ERNEST J. DEWEES—I just want to call your attention to the review of this subject in 1941 by Dr. E. S. Williams, one of our own members, and I would suggest that, any of those who wish to pursue the subject further, that they refresh their memory in relation to this review of the literature and this paper which was so well presented at that time. So much for that.

The former speaker has discussed with you the conditions that are confronted in this disease. I will only indicate to you then what is our usual practice in my own company in the handling of these cases. So far as I am aware, we have no satisfactory figures, no satisfactory criteria on which to base a satisfactory rating schedule. This means we must rely largely upon clinical experience and the reports which come from various clinics of the country. This also further means that we will find great variation among the various medical departments of the country concerning the handling of this particular condition.

In the Provident Mutual we are inclined to divide these cases into three groups: Diverticulosis which is known to be present under forty years of age, where there are no gastrointestinal signs and never have been that would be related to this condition, where in every respect the individual is healthy

and well and has a clear history—we consider with a moderate rating, that's all. Diverticulosis cases are necessarily congenital ones, referred to by a former speaker. Where there is proven diverticulosis we take a conservative point of view and give a small rating. That would likely be for most of us our first or lowest rating. Secondly, those in whom there has never been a definite diagnosis of diverticulosis, but those who have indefinite signs of a digestive disturbance or health complaints of one sort or another, we consider as questionable and rate as high as plus 50. Cases with a history of diverticulosis any time in the past or who may have a disturbance at the present time are declined by the Provident Mutual.

CHAIRMAN ROBINSON—The discussion will be concluded by Dr. Albert S. Irving, Medical Director of the Commonwealth Life. Dr. Irving!

DR. ALBERT S. IRVING—A study of the literature indicates that the subject of diverticulosis and diverticulitis is of surprising interest to the life insurance medical director—surprising in that the contribution to our knowledge of the subject consists of a paper presented to our organization on October 22, 1925 by John F. Erdmann and a paper given before the Medical Section of the American Life Convention by Dr. Ennion S. Williams, Medical Director of The Life Insurance Company of Virginia, one of our members, on June 19, 1941. There are comparatively few other contributions—most of these have been given by the surgeons and the statistics do not cover many cases. One paper is presented in the Journal of The American Medical Association for the week of October 19, 1946, this past week.

Diverticulosis is a condition in which saccular pouches protrude from the lumen into the wall of a portion of the digestive tract. They are found in all areas from the esophagus to the rectum but the term is in practice considered as referring primarily to the colon, chiefly of the sigmoid flexure and secondarily of the caecum.

This condition causes no symptoms and is important in that, because of its presence, it offers an opportunity for irritation or infection to cause an inflammation of the diverticulum which condition is known as diverticulitis.

About 1% of all X-ray examinations of the gastro-intestinal tract show the presence of diverticula but the incidence above age 40 is from 5% to 10% and it is thought from 12% to 20% of these will develop diverticulitis.

Diverticulitis is a condition which is found localized most frequently in the lower left quadrant, involving males from 40 to 50, about 4 to 5 times as often as females, and in individuals who are short, heavy, and overweight in build—children are occasionally affected.

The pathology is the same as in appendicitis ranging from an acute catarrhal attack to a gangrenous condition and it may be self limiting by the formation of adhesions which may even seal off a perforation. This is understandable when you realize that from one to the three layers of the bowel may be involved, mucous membrane, muscularis, and serosa.

Surgical treatment is called for in cases with perforation complicated by abscess formation or generalized peritonitis, in cases of obstruction and in cases when a fistula develops involving bladder, large or small intestine, appendix, uterus, etc. The result of surgery in acute cases is fairly good but the chronic cases, especially those requiring gut resection, present a high immediate mortality 10% and up—Erdmann reports a 4% recurrence and that must be taken into consideration in underwriting these cases.

Diverticulosis, found incidental to other examination, which has caused no symptoms, is apparently not enough to justify rating and probably is satisfactory at standard rates.

Following operation, cases probably should be postponed for two years because of the possibility of recurrence and because there is evidence statistically to indicate other areas of the gastro-intestinal tract are probably involved too—after

two years these cases can be held at substandard rates for 10 years ranging from Table 1 to Table 4, 125% to 200% of mortality.

The cases with complications, particularly a wide-spread peritonitis and following wide-spread adhesions or a perforation, should be rejected.

There is one additional comment I would like to make and that is several of the surgeons have made the statement that the appendix itself is diverticular, but the condition we are discussing now consists of numerous such areas and, therefore, ratings should be much more severe than we would impose for appendicitis. We are concerned with a condition which is effective as far as mortality is concerned, not morbidity.

....President Streight resumed the Chair....

PRESIDENT STREIGHT—In concluding our formal program on behalf of the Association, let me offer our warmest thanks to our guests and members and all others who took part in the program. I wish to offer my sincere thanks to those who so ably assisted me throughout the year, particularly the members of the various committees who have devoted much time and thought to the affairs of the Association.

I wish to thank our retiring secretary, Dr. Edwin G. Dewis, for his loyalty and unfailing support on every occasion. With his help every difficulty was resolved.

Looking to the future, our meetings will reflect the interest and effort we put into them. Your officers require your support in every undertaking throughout the year. Let each of us when asked to help answer the call and do our part towards making these meetings the interesting and informative gatherings we wish them to be.

One other thing, I would like to call your attention to the fact that during the period from 1942 to 1945 the business affairs of this Association were carried out by Dr. William

Bolt, a most worthy man who devoted a great deal of time and attention to various things without having the benefit of an annual meeting to encourage and support him. I would like to have someone suggest that we offer him a vote of thanks for the very able way in which he did conduct the affairs of the Association during that period.

It was so moved, seconded and unanimously carried amid applause.

PRESIDENT STREIGHT—My only remaining duty is the very pleasant one of introducing my successor. May I bespeak for him the same co-operation and courtesy which you so generously have extended to me. Dr. Jimenis! (Applause.)

DR. ALBERT O. JIMENIS—Well, there are only a few of us left, and I wish to say first of all that I highly appreciate this honor and I will do my best to provide a meeting next year which may closely approximate the success attained this year by Dr. Streight. The changes that we made yesterday in our Constitution and By-Laws should now give us more time for mortality investigations.

In view of the changes that we heard of yesterday, the administration of one of our Departments is going to have a change, and Mr. Valentine O. Powell, Vice-President of the Prudential, who was Chairman of that Committee, has asked me to remind you that we will need an Executive Secretary. The Joint Committee, which will run this Department, has not yet been formed and we cannot say certainly that the Executive Secretary will be a doctor. We hope he will be. In the meantime if any of you know of any individual who might be qualified for such work just send us a memorandum so that we may have his name and address at hand when we need it—either to me or to Dr. Hutchinson, Chairman of the Medical Section of the American Life Convention.

Gentlemen, is there any further business to come before this meeting?

DR. ROWLEY—I am happy to have the privilege and honor of being the first to formally address you as the new occupant of the high office of President of this Association. You are all of one mind, I am sure, in feeling that this has been one of the most interesting and profitable meetings of the Association that we have been privileged to attend. There are some new faces among us, and in the coming years the younger members will be in a position to contribute to the knowledge that will be needed.

I would like to move that this Association pass a hearty vote of thanks to Dr. Streight.

The motion was duly put, seconded and unanimously passed.

DR. STREIGHT—Thank you very much.

* * *

A motion to adjourn was made, seconded and carried, and the meeting was adjourned.

* * *

The following members, delegates and guests were present at some time during the sessions: Doctors J. W. Abbott, E. H. Allen, G. E. Allen, W. J. Allison, H. H. Amiral, K. W. Anderson, T. D. Archibald, E. M. Armstrong, T. M. Armstrong, W. B. Aten, H. A. Bancel, G. H. Barber, N. J. Barker, J. R. Beard, E. W. Beckwith, J. E. Bee, R. A. Behrman, M. B. Bender, R. W. Benton, P. E. Bernstein, C. H. Best, J. R. Biggs, C. C. Birchard, W. R. Bishop, J. E. Boland, William Bolt, E. C. Bonnett, J. T. Bowman, W. M. Bradshaw, K. F. Brandon, A. W. Bromer, — Brooks, C. T. Brown, F. R. Brown, H. B. Brown, E. R. Bush, E. J. Campbell, H. B. Campbell, F. H. Carber, P. E. Carlisle, D. W. Carter, Jr., J. P. Chapman, E. D. Chesebro, C. P. Clark, M. H. Clifford, B. R. Comeau, F. R. Congdon, F. V. Costello, D. B. Cragin, B. B. Crohn, F. P. Cross, Simon Dack, R. M. Daley, W. L. Davis, H. D. Delamere, E. J. Dewees, E. G. Dewis, F. R.

Dieuaide, E. S. Dillon, H. W. Dingman, A. H. Domm, W. W. Dow, J. T. Eads, T. M. Ebers, L. B. Ellis, J. L. Evans, A. H. Faber, J. G. Falconer, R. K. Farnham, H. H. Fellows, W. E. Ferguson, R. M. Filson, R. W. Finegan, V. J. Fingar, Frederick Fink, E. M. Freeland, F. I. Ganot, D. S. Garner, J. T. Geiger, W. M. Genthner, E. E. Getman, J. M. Gilchrist, R. A. Goodell, H. E. Goos, R. J. Graves, H. M. Gray, George Greenway, R. S. Gubner, J. R. Gudger, L. E. Haentzschel, Llewellyn Hall, E. J. Hardin, Frank Harnden, L. E. Hathaway, W. C. Hausheer, H. M. Hawkins, W. D. Heaton, E. M. Henderson, E. V. Higgins, W. L. Hilliard, D. W. Hoare, — Hoffman, C. O. Hollinger, J. C. Horan, J. L. Humphreys, J. H. Humphries, J. E. Hunsinger, J. R. B. Hutchinson, A. S. Irving, J. G. Irving, W. A. Jaquith, A. O. Jimenis, A. E. Johann, H. J. Johnson, J. W. Johnson, T. D. Jones, C. S. Keefer, C. H. Kelley, E. F. Kerby, H. B. Kidd, D. G. Kilgore, H. B. Kirkland, Phillip Lambkin, P. H. Langner, Jr., A. J. Lanza, A. L. Larson, L. H. Lee, E. P. Leeper, J. M. Livingston, O. S. Lloyd, H. C. McAlister, F. M. McChesney, C. B. McCulloch, A. J. McGanity, George McLean, L. J. McLellan, A. R. McMahan, W. J. McNamara, Charles Maertz, S. J. N. Migwood, W. L. Mann, J. C. Miller, L. C. Miller, R. C. Montgomery, J. F. Moore, Jr., M. A. Murphy, S. A. Narins, E. C. Noble, Eduard Novak, Jan Nyboer, A. J. Oberlander, Herbert Old, M. I. Olsen, B. H. Olson, G. T. Pack, W. C. Page, C. B. Parker, A. E. Parks, D. S. Pepper, C. A. Peters, C. B. Piper, Cullen Pitt, J. J. Post, R. W. Pratt, O. S. Randall, J. H. Ready, P. V. Reinartz, W. A. Reiter, T. W. Reul, W. M. Reynolds, D. F. Rikkers, G. P. Robb, D. C. Roberts, A. J. Robinson, H. B. Rollins, F. W. Rolph, R. C. Roskelley, T. F. Ross, R. L. Rowley, W. W. Rucks, N. R. Ruud, K. F. Schaefer, S. B. Scholz, L. P. Schroeder, B. T. D. Schwarz, E. D. Sherman, Albert Seaton, R. C. Secor, J. T. Sheridan, D. M. Shewbrooks, R. R. Simmons, W. A. Smith, F. L. Springer, H. F. Starr, J. B. Steele, D. F. Steuart, E. M. Stevenson, H. M. Stewart, I. R. Stidger, A. R. Stone, S. J. Streight, E. V. Sweet, L. G. Sykes, Irvin Tabershaw, K. J.

Members, Delegates and Guests Present 307

Thomson, W. E. Thornton, Joseph Travenick, Jr., H. B. Turner, H. E. Ungerleider, B. W. Vale, Euen Van Kleeck, W. R. Ward, C. F. Warren, R. L. Weaver, Jefferson Weed, D. E. W. Wenstrand, S. S. Werth, A. A. Willander, E. S. Williams, A. A. Wills, Jr., A. C. Wilson, G. E. Woodford, L. S. Ylvisaker, and Messrs. L. F. Baker, H. C. Bates, Ray Burke, Leigh Cruess, Valentine Howell, Arthur Hunter, Edward King, G. C. Kingsley, J. A. McLain, L. S. Parker, P. G. Shepherd, O. G. Sherman, P. V. Wells and Miss A. M. Lyle.

Total attendance at all sessions, 237.

MEMORIALS

DR. EMMANUEL P. BENOIT

1869—1946

Dr. Emmanuel P. Benoit was born in Montreal, December 29, 1869. He was admitted to the medical practice in 1892.

In 1899, he was named professor of internal medicine at Laval University and, a few years later, honorary professor of medical clinic at Notre-Dame Hospital, Montreal.

He was called to the Council of the Faculty of Medicine in 1913, and became Secretary of that body in 1929, an office which he held until his death.

His valuable contribution to both the medical science and the medical education brought him a number of enviable distinctions, namely, Officier d'Académié, Corresponding member of La Société Médicale des Hôpitaux de Paris, Member of the College of American Physicians, Member of the Royal College of Canadian Physicians and honorary member of La Société Médicale de Montréal.

Beside taking an active part in hospital and university life, Dr. Benoit has also devoted twenty-five years of his life to the professional interests and medical education of nurses perhaps the most important of his many activities and one which he held at heart.

Dr. Benoit joined La Sauvegarde Life Insurance Company in 1908, as Medical Director.

DR. HAROLD E. BOGART

1896—1943

It is with great regret that the New York Life Insurance Company announces the sudden death of Dr. Harold E. Bogart on December 17, 1943. Dr. Bogart had been an Assistant Medical Director of the Company since June 26, 1935.

He was born at Ithaca, New York on October 31, 1896, the son of Elmer E. and Margaret Bogart, still living. The family moved to New York in 1906 and Dr. Bogart attended the Morris High School, of which his father was Principal, graduating in 1914. He attended Cornell Medical College, receiving an A.B. Degree in 1918 and an M.D. Degree in 1921. He interned at Gouverneur Hospital, New York City.

Dr. Bogart entered the service of the New York Life Insurance Company on December 8, 1924. His ability was soon recognized and he became a Medical Board member on April 1, 1928. He was made Medical Supervisor on December 8, 1931 and was appointed to the rank of Assistant Medical Director in 1935. His untimely death was deeply regretted by all who were associated with him.

DR. CHARLES LEONARD CHRISTIERNIN

1878—1944

Dr. Charles Leonard Christiernin, Medical Director of the Metropolitan Life Insurance Company, died suddenly of a heart attack on October 18, 1944 while on vacation at his camp in the Adirondacks at the age of 66. Entering the service of the Company as a Medical Examiner in Boston, Massachusetts, he joined the Medical Staff in the Home Office in April 1911. In 1916 he was made Assistant Medical Director and in 1935 was appointed Medical Director in full charge of the Company's medical work, and although past the retirement age he elected to continue his duties because of the absence on military duty of a large part of his medical staff. A modest, unassuming man, his manner nowise suggested his accomplishments. He carried on his work with a consideration for others that won him the friendship of all with whom he had dealings.

In the Medical Directors Association he was for many years an active member. He was Treasurer of the Association from 1918 to 1929, Vice President from 1929 to 1931 and

President from 1931 to 1932. He was a member of the Council and a member of the M.I. B. Committee from 1940 to his death.

Dr. Christiernin was born in Boston, Massachusetts on February 10, 1878, the son of Henry P. and Rosalie Christiernin.

He attended Boston Latin School and, later, Harvard, receiving his degree of A.B. from Harvard College in 1902, and his degree of M.D. from Harvard Medical School in 1906.

He is survived by his wife, Mrs. Regina Scott Hall Christiernin and one son, First Lieutenant Charles Leonard Christiernin, Jr. To them goes the abiding sympathy of all of us who knew him.

DR. HAMILTON CHALMERS CRUIKSHANK
B.A., M.B., D.P.H.
1888—1942

Dr. Hamilton C. Cruikshank of Toronto, Ontario, died following a short illness at his home on Christmas day 1942, from coronary disease.

Born in Hamilton, Ontario, on August 30th, 1888, Dr. Cruikshank was educated at Hamilton schools and at University College, University of Toronto, where he completed the Arts course in 1909. After four years of medical studies at the same University he entered the medical service of the Canadian Pacific Railway, and was in British Columbia for two years. At the beginning of the Great War, Dr. Cruikshank enlisted with the Canadian Army Medical Corps and was in France during 1915, 1916 and 1917, attaining the rank of Captain. In 1917–18 he was in charge of serology, Base Laboratory M. D. No. 2.

On his return home he entered the Department of Soldiers Civil Re-establishment, where, in 1919 and 1920 he was in charge of serology in conjunction with the Connaught Laboratories and the Department of Preventive Medicine, University

of Toronto. He graduated in Medicine from the University of Toronto in 1919 and received his diploma in Public Health two years later. In May 1920 he entered the Department of Public Health as Director of Laboratories and in September 1924 he was promoted to the position of Deputy Medical Officer of Health for the City of Toronto where his work against smallpox and other communicable diseases won him high praise. He occupied this post with distinction until his appointment as Medical Officer for the Manufacturers Life Insurance Company on January 1st, 1927.

Dr. Cruikshank was a member of the Association of Life Insurance Directors of America and of the Medical Section of the American Life Convention, as well as the Medico-Actuarial and Public Health Committees of the Canadian Life Officers Association.

His kindly and genial personality made him a great favorite, not only with his fellow executives and Head Office associates, but also with the Field Force of the Company generally to whom he was well known. He will be greatly missed by all who knew him.

DR. JOSEPH E. ENGELSON
1882–1946

Dr. Engelson, after an illness lasting one year, died at his home in Plainfield, N. J. on March 17, 1946. He had been a member of this Association since 1928 and had been associated with the Mutual Life Insurance Company of New York since 1927.

Born in New York, he attended schools in this city and was graduated in medicine from Columbia University, the College of Physicians and Surgeons, in 1906. For the next two years he completed his internship at Roosevelt Hospital and immediately took postgraduate training at the Sloane Hospital for Women. He entered private practice in 1910, specializing in gynecology and obstetrics. He remained active in that specialty until joining the Mutual Life in 1927.

During World War I he was captain in the Medical Corps and was a member of a surgical team made up of Roosevelt Hospital alumni. This unit saw extremely active service in the war zone in France.

By close association of many years, his associates recognized in him a faithful and dependable friend. His loyalty to the company and his desire to bear his full share of the work were among his outstanding attributes.

He is survived by his wife, Grace M. Engelson, and one son.

DR. FRANCIS CHARLES EVERS

1893–1945

Dr. Evers died at his home in Mount Vernon, New York, on February 17, 1945, due to a heart condition from which he had suffered for a period of approximately five years.

He was born August 30, 1893 in Mount Vernon, New York. After completing his preliminary studies he matriculated at Fordham University, from which he received the degree of Doctor of Medicine in 1917. Following an internship at the Fordham Hospital, he entered the Medical Corps of the United States Navy, in which he served for four and one half years.

Upon resigning his commission in the Navy, he became an examiner for the New York Life Insurance Company and shortly thereafter, on January 1, 1922, joined the Company on a full time basis as a member of the Medical Board.

His aptitude, ability and general understanding of the problems of insurance medicine earned for him promotion to the post of Assistant Medical Director in 1930. In 1934, he was made a Medical Director and fulfilled his duties with the Company in this capacity until his death.

He is survived by his wife, one son and two daughters.

DR. WILLIAM GUSTAV EXTON

1876-1943

Dr. William Gustav Exton, born at Savannah, Ga., February 25, 1876, died at Mt. Sinai Hospital in New York on March 12, 1943. His early education was directed by private tutors, later he attended Peekskill Military Academy, received the degree of Bachelor of Arts at Columbia University and graduated as a Doctor of Medicine from that institution in 1896. From then until 1899 he was house physician at Mt. Sinai Hospital and during the two years which followed was engaged in postgraduate and research work at the Pathological Institute in Vienna and in London and Paris. Following five years of general practice in New York City he devoted the period, 1907 to 1916 to special practice, teaching and research in urology.

In 1914 he became associated with The Prudential Insurance Company and until his death was Director of the Laboratory and Longevity Service of that Company.

From 1900 to 1941 he published 50 papers describing the results of his original work and investigation. Eight of these appeared in the Proceedings of this Association. His early writings had to do with bacteriological subjects, his special interest in urology was reflected in his writings during the following period and after 1920 his contributions to the literature were related mostly to laboratory methods. The subjects included those dealing with the qualitative and quantitative determination of the proteins and sugars as found in the urine, blood analyses as related to sugar, hemoglobin, red cell count, fibrinogen as an index of disease, iron, chlosterol, acidosis and alkalosis and the significance of the plasma carbon dioxide capacity, and renal and glycosuric functional tests. His writings also included description of laboratory instruments of his own invention, notably the euscope and the photoelectric scopometer. Other publications evidenced his keen interest in pre-clinical medicine and his thoughts on periodic health reviews.

He was president of the American Society of Clinical Pathologists, 1926–1927, and a member of the American Urological Society, The Optical Society of America, The New York Pathological Society, The American Chemical Society and the American Medical Association, and recipient of the Burdick Memorial Medal of the American Society of Clinical Pathologists.

Endowed with a brilliant mind and an altruistic nature he created a loyal group of associates and friends. In 1905 he was married to Florence Phillips of Atlanta, Ga., who survives him, as do three sons all officers in the United States Navy.

DR. ROBERT HEWITT FELDT

1908–1945

Doctor Robert Hewitt Feldt, Assistant Medical Director of The Northwestern Mutual Life Insurance Company, died in Milwaukee on the eighth of October, 1945. He had suffered with a valvular disease of the heart for some years, but had the courage to continue at his desk with considerable regularity until the last ten days of his life.

Born in Monmouth, Illinois, November 27, 1908, Dr. Feldt received his early education in the Monmouth schools and Monmouth College. Upon graduation he entered the Northwestern University Medical School, in which he made an outstanding record, graduating in the upper tenth of his class. He served as an interne in Wesley Memorial Hospital in Chicago for six months and in Cook County Hospital for seventeen months.

Dr. Feldt's excellent training and natural ability fitted him exceptionally for the work of the Medical Department of The Northwestern Mutual, which he joined June 1, 1935. His untimely death cut short a most promising career in his chosen profession. His judgment was always sound and he constantly gave evidence of co-operation and aptitude for developing statistical studies. He had a deep sense of responsibility and

showed unfailing courtesy and consideration for others. All his associates sincerely liked and respected him.

Outside of business hours Dr. Feldt was active in the cardiac clinic of the Milwaukee Children's Hospital. In 1943 he was awarded the Milwaukee Academy of Medicine's annual prize to recent graduates for his treatise, "Sulfanilamide As A Prophylactic Measure In Recurrent Rheumatic Infection." This was based on a controlled study involving 131 "patient-seasons" from this clinic and was published in the American Journal of Medical Sciences, April, 1944. Other articles relating to blood pressure studies had appeared earlier in the same journal and in the American Heart Journal.

As an avocation Dr. Feldt also contributed many articles on medical subjects to national lay periodicals. Nine of these appeared in The American Mercury and others in such magazines as Reader's Digest, Liberty, Canada Digest, Scientific American and Science Digest. He was a member of the Authors' League of America.

He is survived by his wife, two sons, and his mother.

DR. ROBERT ALEXANDER FRASER

1878–1945

Dr. Robert Alexander Fraser, formerly Chief Medical Director of the New York Life Insurance Company, died at Greenwich, Connecticut on Thursday, November 1, 1945.

Dr. Fraser was born in Toronto, Ontario on March 5, 1878. He was educated in Toronto Public Schools and at Harvard College. He received his medical training at Trinity Medical College. Following his graduation, he served as interne in Toronto and Buffalo, N. Y., after which he came to New York City where he practiced from 1907 to 1913. During this period he was connected with the Tuberculosis Clinic of New York Dispensary, New York City Health Department and Bellevue Hospital.

He served as Lieutenant with the Forty-eighth Highlanders of Canada and later was a Lieutenant in the First Army Medical Corps.

Dr. Fraser first became associated with the New York Life Insurance Company in 1913 following experience in the fields of public health and private practice. His abilities as an administrator and executive, combined with his extensive knowledge of medicine and its relationship to sound life insurance underwriting practices and procedures, were recognized by the company and led to his steady advancement. He was appointed Medical Supervisor in 1917, Assistant Medical Director in 1920, Associate Medical Director in 1927 and in 1934 he was elected Chief Medical Director. In 1942 he was named Chairman of the Medical Committee and a member of the Underwriting Committee. His high standing in his chosen field was recognized by the Association of Life Insurance Medical Directors. He was Editor of the Proceedings of this Association 1929–1932, Vice-President 1932–1933 and President 1934–1935.

In recent years Dr. Fraser had not enjoyed the best of health. However, conscientious devotion to the affairs of the company led him to persist in carrying on his duties with a courage and determination which won for him the admiration of all who knew him, especially those who were closely associated with him. He will be greatly missed by his wide circle of friends in the Association.

DR. WILLIAM WALTER HOBSON

1884–1945

William Walter Hobson was born in Paterson, New Jersey, January 20, 1884, where he received his early education. He died January 4, 1945, of an acute coronary occlusion.

In 1910, he graduated from the College of Physicians and Surgeons at Baltimore, now united with the Medical School of the University of Maryland. He served his interneship at the Mercy Hospital, Baltimore. He was a member of the Phi

Chi Medical Fraternity and the American Medical Association. He entered the practice of medicine in Baltimore in 1910, as surgeon for the Montclair Shops of the Baltimore and Ohio Railroad, and also as traveling surgeon for consultation of the entire system.

In 1916, he became associated with the Reliance Life Insurance Company of Pittsburgh as Assistant Medical Director. He was elected Associate Medical Director July 1, 1936, and Medical Director on January 26, 1943. Over many years he was also a Medical Referee for a large number of other insurance companies.

Dr. Hobson was quiet, unassuming, and of a retiring nature, but was none-the-less widely known and very well liked throughout the Company. He was an indefatigable worker student of medicine, and had a keen insight into the problems of insurance medicine.

His sudden death leaves a void in his Company which will be felt for many years.

DR. CHARLES BRUCE IRWIN

1881–1943

Charles Bruce Irwin, Vice President and Medical Director of the North American Life Insurance Company of Chicago, died of a heart ailment while driving to his home on the evening of September 21, 1943. He was born in Westminster, Maryland, April 12, 1881, and graduated from the University of Maryland Medical School in 1904. He practiced medicine in Kansas City, Missouri, until July 1, 1919, at which time he was elected Medical Director of the North American Life. He became a member of the Board of Directors in January 1932 and Vice President and Medical Director in 1939.

In 1912 he was married to Miss Norine O'Brien of Kansas City, Missouri. Surviving him are his widow and two sisters, Mrs. Mary Cunningham and Mrs. Elizabeth Jefferis, both of Westminster, Maryland.

He was elected a member of The Association of Life Insurance Medical Directors in 1919, and was a regular attendant at its annual Conventions continuously through the years. He was also a member of The American Medical Association and The Chicago Medical Society. He was one of the founders of the Tuberculosis Society of Kansas City, Missouri, and for many years he had been a widely recognized authority on heart diseases. In addition to doing an outstanding job as Medical Director of his Company, he contributed greatly to the war effort by donating his services an appreciable part of each day to the training of Army and Navy doctors.

For more than a year he had devoted his after office hours far into the night making a most painstaking research of all material available on the subject of electrocardiographic findings. A few days prior to his death he completed "A Review of Electrocardiographic Interpretation". This compact, complete and excellent treatise was published by Northwestern University Medical School since his death, and it has received wide acclaim. Dr. Irwin possessed a fine analytical mind, a most unusual memory and a thoroughness rarely matched. He was a professional gentleman, whose life represented the very best in medicine, especially in the medicine of life insurance.

DR. WILLIAM M. JONES

1881–1944

It is with deep regret that we record the death of Dr. Wm. M. Jones, Medical Director of the Jefferson Standard Life Insurance Company, Greensboro, North Carolina, which occurred at his home on July 29, 1944, following an illness which began in the fall of 1943 and had incapacitated him since March.

Dr. Jones, a native of Wake County, North Carolina, was born January 23, 1881. He received his early education in Asheville, North Carolina, and his medical education at the University of Maryland, where he was graduated with the degree of M. D. in 1903. After serving an internship in Balti-

more, he entered private practice in 1905 in High Point, North Carolina. In 1912, he came to Greensboro, North Carolina as health officer of Guilford County in which position he distinguished himself in the field of public health. He came with the Jefferson Standard Life Insurance Company as Assistant Medical Director in 1923. In 1941, he was elected Medical Director, in which capacity he made an excellent record, serving until his death.

Public spirited and mindful of the welfare of others, Dr. Jones was active in civic affairs and projects for the betterment of his community. He was a faithful member of the Episcopal Church. As examining physician for the Local Draft Board in World War I and World War II, he freely contributed his time, skill and strength to his country. This he continued to do when, in the latter months, his strength was diminishing and time was growing short. This exemplifies the courage, faithfulness and unselfishness of the man.

His sterling qualities and good humor attracted to him a host of loyal friends. He was always a good companion. He enjoyed his friends and they enjoyed him. His business associates loved him for his kindliness and friendliness and respected and admired him for his professional knowledge and good judgment. As a medical director, he was outstandingly successful. He is sorely missed by his friends and associates.

Dr. Jones is survived by his wife, the former Miss Lala Mundy, and three daughters, Mrs. Francis Jones Ernst, Miss Hortense Jones and Miss Patsy Jones, all of Greensboro, North Carolina.

DR. CARL LOVELACE

1876–1944

Dr. Carl Lovelace, of Waco, Texas, died on September 14, 1944, at his home, following an extended illness.

Dr. Lovelace was born February 6, 1876, in Crystal City, Missouri, the son of Thomas Jefferson and Sarah (Harrison)

Lovelace. The family moved to Waco in 1891, where he received his early education in the public schools and the Academy Department of Baylor University, from which he was graduated in 1894. He received an A.B. degree from Baylor University in 1898. Immediately after his graduation, he joined Roosevelt's Rough Riders of the United States Army, in San Antonio, and served with this famous organization in Cuba during the Spanish-American War. At the close of the war, he returned to Waco, and in 1899, attended the Medical Department of Vanderbilt University in Nashville, Tennessee, for one year. He later was graduated from George Washington University with an M. D. degree in 1902. He served his internship at George Washington University Hospital, at the completion of which he went with Surgeon General Gorgas to the Canal Zone, where he remained until the completion of the Panama Canal. In 1907, he completed a course in tropical medicine in the University of Liverpool, England, after which he became Chief Surgeon of the Madeira-Mamore Railroad in Brazil, for which position he was recommended by General Gorgas, because of his knowledge of tropical diseases. After construction of this railroad was finished, he accepted a position as surgeon with the Inca Mining Company in Peru. In 1913, Dr. Lovelace returned to Waco and entered the general practice of medicine.

In 1918, Dr. Lovelace was commissioned a Major in the Medical Reserve Corps of the United States Army, and during World War I, was stationed at Fort Oglethorpe, Georgia. At the close of the war he returned to private practice in Waco. In 1920, he was elected Medical Director of the Amicable Life Insurance Company, of Waco, Texas, which position he held until his death.

Dr. Lovelace had been a member of the McLennan County Medical Society, State Medical Association, and American Medical Association throughout his professional career in this state. He was past President of the McLennan County Medical Society. He was a Charter Member of the Texas Club of In-

ternists and had served that organization as President from February 1940 to February 1941. He was a member of the staff of the Central Texas Baptist Hospital and Providence Sanitarium. He was the author of a number of scientific articles, especially dealing with tropical diseases. In addition to his professional responsibilities, Dr. Lovelace found time to take a prominent part in the civic affairs of Waco. He served two years as a member of the City Commission of Waco, and at the time of his death, was Chairman of the Board of Directors of the Waco Public Library. He was a member of the Baptist Church and a Mason. Dr. Lovelace was held in the highest esteem by all who knew him. He was never too busy to assist any one who sought his help. His life was full and useful, and he carried on actively until his final illness.

Dr. Lovelace was married to Miss Lucille Hill of Waco, who died before him. He is survived by three sons.

DR. LEWIS FRANCIS MacKENZIE

1871–1944

Dr. Lewis Francis MacKenzie was born May 18, 1871 at Richmond, Quebec, the son of a Scotch father and an Irish mother, and throughout his life evidenced the charming characteristics of both those races. He attended St. Francis' College, and in 1894 was graduated in medicine from McGill University. For thirteen years he was actively engaged in the practice of medicine, came to the Home Office of the Prudential from Wellfleet, Massachusetts, in 1908, and served as Assistant Medical Director, and then Associate Medical Director until his retirement in 1941. He became a member of this Association in 1915 and a Member Emeritus in 1941. Following his retirement he lived in Burlington, Vermont, for two years, and, although an American citizen, spent the last year of his life in his native land, dying there on September 24, 1944. His widow, a sister, a daughter, and three grandchildren survive him.

Dr. MacKenzie had a great interest in the subject of blood pressure and its relationship to insurance selection, having been actively engaged in study and research of that problem since about 1913. He contributed papers on this subject to the Association's Proceedings and to other publications.

Very deeply implanted within him were the doctrines of Presbyterianism and he lived his life with a strong realization of his Christian obligations. During a period of over thirty years, he served as an elder of the various Presbyterian churches of which he was a member and taught several Bible classes, where his gift of extemporaneous speaking and his extensive Biblical knowledge made his classes particularly interesting and delightful. He was an enthusiastic fisherman, and loved to tend his flower garden.

Those who had been associated with him over the years felt a great loss in his passing and will ever remember his kind and inspiring nature.

DR. RALPH BEVERLY OBER

1879–1945

Dr. Ralph Beverly Ober, Associate Medical Director of the Massachusetts Mutual Life Insurance Company, died on April 13, 1945, in Sarasota, Florida of coronary thrombosis.

Dr. Ober was graduated from the Harvard Medical School in 1901. In January, 1910, he was appointed Assistant Medical Director and in January, 1920, he was elected Associate Medical Director.

During his long association with us, his knowledge and experience were a distinct asset to our medical department even though, because of his widely recognized skill as a surgeon, the demands upon his time were too great to allow him to give his full services to our organization. But he proved a valuable aid as a consultant and advisor and gave freely of his time whenever possible.

Dr. Ober served as Major in the Medical Corps during the first World War and had an important assignment at one of the camps in the South.

He was a former president of the Springfield Hospital Staff and also took an active part in social welfare work in the city. He was especially prominent in the movement for the establishment of more playgrounds, being deeply interested in anti-tuberculosis work.

He was a member of the American Medical Association, Springfield Academy of Medicine, Clinical Club, New England Surgical Society, American Board of Surgery, and was a Fellow of the American College of Surgeons.

DR. JACOB ALLEN PATTON

1866–1944

Dr. Jacob Allen Patton, an emeritus member of this Association, died on September 25, 1944 at his home in Los Angeles following a very brief illness. The son of a physician, he was born in Charleston, Illinois, September 29, 1866. He graduated from the University of Illinois in 1888 and received his degree in medicine from Rush Medical College two years later. The following year was spent in his native town assisting his father with his practice, and he then returned to Chicago where he established himself in the practice of medicine and concurrently teaching chemistry at his alma mater. His thirty-eight years of active association with The Prudential Insurance Company began in 1895, when he became a medical examiner in Chicago. In 1908 he was invited to join the Home Office Medical Staff of the Prudential and filled successively the offices of Assistant Medical Director, Associate Medical Director, Medical Director and Second Vice President and Medical Director, retiring from active service in 1933.

He became a member of this Association in 1909 and was active in its affairs during his twenty-four years of membership, contributing a number of scientific papers and occupy-

ing positions on several important committees. He served as President for the term 1928-1929.

Dr. Patton, naturally of a friendly and sociable disposition, cultivated a wide acquaintance in life insurance circles, took a helpful interest in the problems of others and was well known and loved by many in this Association. This interest was maintained during the eleven years of his retirement, and his enthusiasm for the climate and life of California and his interest and love for old friends in the east caused him to cross the continent many times.

He is survived by his widow, Mrs. Kate W. Patton, and by a grandson. We all regret his passing and shall miss his friendship.

DR. WILLIAM O. PAULI

1882—1944

Dr. Pauli died suddenly at his home in Cincinnati, Saturday, September 16. Apparently in excellent health, he had just completed some work on his lawn when he was stricken with a heart attack from which he could not be revived.

Dr. Pauli was born in Cincinnati, February 11, 1882. He completed his elementary schooling in this city, and then entered the University of Cincinnati from which he graduated in 1902 with a Bachelor of Science degree. He taught biology for a year, and then entered Johns Hopkins University, getting his M.D. in 1907. After interning at Johns Hopkins Hospital, he took up the practice of medicine in Cincinnati.

He joined the Medical Staff of the Union Central in 1910 and in 1911 was made Assistant Medical Director. He held this post until February, 1942, when he was elected Associate Medical Director. During his long period of service with The Union Central, he was instrumental in establishing the Company's chemical laboratory, in compiling many valuable statistical studies in the field of underwriting and also in setting up a smooth-working procedure for the selection of Medical Examiners.

A faithful member of the Seventh Presbyterian Church of Cincinnati, Dr. Pauli also belonged to the Lion's Club, Cincinnati Academy of Medicine, Ohio State Medical Association, American Medical Association, American Public Health Association, and the Heart Council of the Public Health Federation of Cincinnati. He was a member for many years of the Association of Life Insurance Medical Directors.

He is survived by his wife, Mrs Winifred Weeks Pauli, and two daughters, Mrs. William J. Maynard and Miss Virginia Pauli.

Dr. Pauli had a host of friends, both in and out of his profession. Always a student, he was remarkably well informed in all branches of medicine. He was kind and generous and loyal, and his passing will be mourned far into the future by his associates and admirers.

DR. JAMES A. ROBERTS

1876—1945

Dr. James A. Roberts (born August 18, 1876), died suddenly of a heart attack on July 23, 1945.

He was a graduate in medicine, University of Toronto, and a Fellow of the Royal College of Surgeons of England. Shortly after qualifying for his fellowship in surgery, he joined the Canadian army and served in the South African War in 1900 and 1901. On his return he was appointed to the surgical staff of the Toronto General Hospital.

When the first World War broke out in August 1914 he was given command of the University of Toronto Hospital, known as No. 4 Canadian General Hospital, which he took to England and later to Salonica. Later he was appointed inspector of hospitals in England for the Canadian forces. For his military service he was appointed a Commander of the Bath.

On returning from overseas in 1919 he continued in practice until his appointment as Assistant Medical Director of The Canada Life Assurance Company in October 1925.

His hobbies were golf and hunting. He greatly delighted in the northern woods of Ontario, which he visited every year in the hunting season.

He had a real capacity for friendship and was highly esteemed by those who knew him well. His loss is particularly mourned by those of us in this office who were his close associates.

DR. ROBERT SANDERSON

1904—1945

Dr. Robert Sanderson, Assistant Medical Director of the John Hancock Mutual Life Insurance Company, was born in Ayer, Massachusetts, on January 20, 1904.

He prepared for college at the Groton School, and was graduated from Yale in 1926. After graduation he taught for two years and then entered Harvard Medical School with the Class of 1932. On receiving his Medical Degree, he served at the Beverly Hospital for six months, and then took a regular eighteen months' service at the Boston City Hospital.

Dr. Sanderson was in general practice in Dedham, until he was appointed Assistant Medical Director on October 15, 1939. When the war broke out, he was commissioned a Lieutenant in the U. S. Naval Reserve, and was assigned to the Bureau of Medicine and Surgery at Washington, where his knowledge of medical selection could be utilized. He died suddenly on February 20, 1945, and was buried in the National Cemetery, Arlington, Virginia.

Although Dr. Sanderson was with the Company only three years, he showed excellent knowledge of insurance problems. He was a conscientious worker and always cheerful and friendly. He was devoted to his family and interested in community affairs and will be greatly missed by his many friends and business associates.

DR. ARTHUR L. SHERRILL
1871—1944

It is with deepest regret that the Equitable Life Assurance Society announces the death of Dr. Arthur L. Sherrill, Assistant Medical Director, at Chicago, on December 2, 1944. Born in Clinton, New York, in 1871, he received his degree of Doctor of Medicine, from New York University in 1898, and served as interne at Bellevue Hospital from 1898 to 1903.

Dr. Sherrill began his service with the Society in 1904, as a Medical Examiner at the Home Office. In 1911, he was appointed Assistant Medical Director, and in 1914, was transferred to Chicago, in charge of the Society's Medical office there.

His unfailing cheerfulness, conscientious devotion and loyalty, as well as his sterling character and lovable personality, greatly endeared him to his associates in the field and at the Home Office.

Those who had the privilege of knowing Dr. Sherrill all feel a deep and personal loss in his passing.

DR. CHARLES H. WILLITS
1857–1942

After nearly a half-century of continuous association with the Provident Mutual Life Insurance Company, Dr. Charles H. Willits left his desk in the Medical Department on September 16, 1940, and went with Mrs. Willits to a comfortable cottage in quiet and attractive surroundings in Coconut Grove, Florida, to live. It was there, after only a few days' illness, that he died on January 2, 1942.

Doctor Willits was born in Philadelphia on February 27, 1857. He was graduated from the University of Pennsylvania Medical School in 1879. For a number of years he was associated in practice with Dr. W. W. Keene, a Philadelphia surgeon of distinction. Later he established his own private practice in Philadelphia, and started to examine for the Provident in 1892.

In 1902 he became a member of the Home Office staff—and, in 1906, was appointed medical director. Under his leadership the medical affairs of the Company were capably managed. For a while he was the only physician in the department. As the volume of business increased, it became necessary to add one doctor, then another—so that at the time of his retirement there were four doctors in the department.

In 1936 the Board of Directors gave Doctor Willits the title of medical adviser—and, for the next four years, he continued to come to the office almost daily. During those last years many questions of policy were discussed with him, and his interest in Company affairs was always very keen.

Throughout his long association with the Company he was beloved by officers, the field force, and employees alike. His position as medical director brought him into especially intimate relationship with the field organization, who regarded him with confidence and affection. His was a rare personality which attracted the casual acquaintance as well as his intimate friends. In his official capacity it was often necessary to take action which would cause disappointment to agent and client. He had ability which enabled him to decline an application with finality that gave no occasion for misunderstanding, yet with a sympathy and grace that would invariably win respect and good will. This quality of sympathetic understanding of every human frailty, as well as those qualities in men and women which make for success, won for him the confidence and respect of all who knew him. He was completely free from egotism—and, with a mildness of manner and an arresting twinkle in his eye, he could put a too-certain individual in his place, and with a few words bring into line refractory behavior. He had a clear insight which quickly distinguished first things first. He knew when to be rigid in decision and when to be generous—and he was always gracious.

In the fulness of a rich life Doctor Willits has passed from among us. Although we will not see him again—his memory, fragrant with countless kind deeds and words, will remain with us as the years go by.

DECEASED MEMBERS

John L. Adams, M. D.	New York, N. Y.
Charles D. Alton, M. D.	Hartford, Conn.
Malcolm O. Austin, M. D.	San Francisco, Calif.
Walter C. Bailey, M. D.	Boston, Mass.
Henry A. Baker, M. D.	Kansas City, Mo.
A. W. Barrows, M. D.	Hartford, Conn.
John T. J. Battle, M. D.	Greensboro, N. C.
Wesley W. Beckett, M. D.	Los Angeles, Calif.
Charles D. Bennett, M. D.	Newark, N. J.
Emmanuel P. Benoit, M. D.	Montreal, Can.
Charles Bernacki, M. D.	New York, N. Y.
Thomas W. Bickerton, M. D.	New York, N. Y.
Albert W. Billing, M. D.	New York, N. Y.
Wilton F. Blackford, M. D.	Louisville, Ky.
David N. Blakely, M. D.	Boston, Mass.
Robert J. Blanchard, M. D.	Winnipeg, Man.
Harold E. Bogart, M. D.	New York, N. Y.
Frederick G. Brathwaite, M. D.	New York, N. Y.
William R. Bross, M. D.	New York, N. Y.
Chauncey R. Burr, M. D.	New York, N. Y.
Robert L. Burrage, M. D.	Newark, N. J.
James Campbell, M. D.	Hartford, Conn.
Willard B. Carpenter, M. D.	Columbus, Ohio
Frank W. Chapin, M. D.	New York, N. Y.
Frederick W. Chapin, M. D.	Springfield, Mass.
Ferdinand E. Chatard, M. D.	Baltimore, Md.
Charles L. Christiernin, M. D.	New York, N. Y.
Henry Colt, M. D.	Pittsfield, Mass.
Henry W. Cook, M. D.	Minneapolis, Minn.
Thomas C. Craig, M. D.	New York, N. Y.
Hamilton C. Cruikshank, M. D.	Toronto, Canada
Edward Curtis, M. D.	New York, N. Y.
Clark W. Davis, M. D.	Cincinnati, Ohio
William B. Davis, M. D.	Cincinnati, Ohio
Charles A. Devendorf, M. D.	Detroit, Mich.

DECEASED MEMBERS

Henry K. Dillard, M. D.	Philadelphia, Pa.
Frank Donaldson, M. D.	Baltimore, Md.
Percy G. Drake, M. D.	Hartford, Conn.
Edwin W. Dwight, M. D.	Boston, Mass.
James B. Eagleson, M. D.	Seattle, Wash.
Z. Taylor Emery, M. D.	New York, N. Y.
Joseph E. Engelson, M. D.	New York, N. Y.
Francis C. Evers, M. D.	New York, N. Y.
William G. Exton, M. D.	Newark, N. J.
Robert H. Feldt, M. D.	Milwaukee, Wis.
John W. Fisher, M. D.	Milwaukee, Wis.
Paul FitzGerald, M. D.	Newark, N. J.
Thomas A. Foster, M. D.	Portland, Me.
Robert A. Fraser, M. D.	New York, N. Y.
Samuel W. Gadd, M. D.	Philadelphia, Pa.
Homer Gage, M. D.	Worcester, Mass.
Thomas H. Gage, M. D.	Worcester, Mass.
Donald M. Gedge, M. D.	New York, N. Y.
Walter R. Gillette, M. D.	New York, N. Y.
Frank S. Grant, M. D.	New York, N. Y.
Frederick L. Grasett, M. D.	Toronto, Can.
Landon Carter Gray, M. D.	New York, N. Y.
Frederick W. Hagney, M. D.	Newark, N. J.
Ignatius Haines, M. D.	Boston, Mass.
George C. Hall, M. D.	Richmond, Va.
Joseph B. Hall, M. D.	Hartford, Conn.
Edward H. Hamill, M. D.	Newark, N. J.
William W. Hitchcock, M. D.	Los Angeles, Calif.
Angier B. Hobbs, M. D.	New York, N. Y.
William W. Hobson, M. D.	Pittsburgh, Pa.
Donald C. Hoffman, M. D.	New York, N. Y.
Edgar Holden, M. D.	Newark, N. J.
John Homans, M. D.	Boston, Mass.
John Homans, 2d, M. D.	Boston, Mass.
J. Charles Humphreys, M. D.	Philadelphia, Pa.

DECEASED MEMBERS

Abel Huntington, M. D.	New York, N. Y.
Ross Huston, M. D.	Des Moines, Iowa
Henry H. Hutchison, M. D.	Toronto, Can.
Lefferts Hutton, M. D.	New York, N. Y.
Charles E. Iliff, M. D.	Cincinnati, Ohio
Phineas H. Ingalls, M. D.	Hartford, Conn.
Charles B. Irwin, M. D.	Chicago, Ill.
Arthur Jukes Johnson, M. D.	Toronto, Can.
William M. Jones, M. D.	Greensboro, N. C.
John M. Keating, M. D.	Philadelphia, Pa.
Edward B. Kellogg, M. D.	Boston, Mass.
Frank W. Kenney, M. D.	Denver, Colo.
William W. Knight, M. D.	Hartford, Conn.
Edward Lambert, M. D.	New York, N. Y.
John B. Lewis, M. D.	Hartford, Conn.
Ernest H. Lines, M. D.	New York, N. Y.
John M. Little, M. D.	Boston, Mass.
Robert L. Lounsberry, M. D.	Binghamton, N. Y.
Carl Lovelace, M. D.	Waco, Texas
Henry P. Lyster, M. D.	Detroit, Mich.
Lewis F. MacKenzie, M. D.	Newark, N. J.
Milton T. McCarty, M. D.	Frankfort, Ind.
Charles N. McCloud, M. D.	St. Paul, Minn.
Francis A. McGreen, M. D.	New York, N. Y.
Lewis McKnight, M. D.	Milwaukee, Wis.
Thomas H. McMahon, M. D.	Toronto, Ont.
Walter T. McNaughton, M. D.	Milwaukee, Wis.
Elias J. Marsh, M. D.	Paterson, N. J.
Henry A. Martelle, M. D.	Hartford, Conn.
Allison Maxwell, M. D.	Indianapolis, Ind.
Archibald Mercer, M. D.	Newark, N. J.
Francis D. Merchant, M. D.	New York, N. Y.
William R. Miller, M. D.	Hartford, Conn.
William D. Morgan, M. D.	Hartford, Conn.
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