

PLAINTIFF'S EXHIBIT

MBL-299

SOCONY-VACUUM OIL COMPANY, INC.

FOURTH ANNUAL MEDICAL MEETING

26 Broadway

New York 4, N. Y.

November 3 and 4, 1949

002576

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LIST OF PEOPLE ATTENDING MEDICAL MEETING

MANUFACTURING DIVISION

Augusta, Kansas

Dr. F. O. Epp  
Mrs. Elnora Tinker, R.N.

Buffalo, New York

Dr. Marshall Clinton  
Mrs. Ann Lanier, R.N.

Casper, Wyoming

Dr. Allan McLellan  
Mrs. Judith Oppedahl, R.N.

E. Chicago, Indiana

Dr. D. R. Johns  
Mrs. Antoinette Bracco, R.N.

E. River Operations

Dr. M. N. Howard  
Miss Helen Dalglish, R.N.  
Miss Elizabeth Allen, R.N.

E. St. Louis, Illinois

Dr. T. C. St. John  
Miss Paula Keirle, R.N.

Metuchen, New Jersey

Dr. Guy R. Hopper  
Miss Anita M. Harris, R.N.

Clean, New York

Dr. N. P. Johnson  
Miss Madeline B. Averill, R.N.

Paulsboro, New Jersey

Dr. N. K. Chesley  
Miss Elizabeth Lafferty, R.N.  
Mrs. Katherine Roman, R.N.  
Miss Irene Ruggaber, R.N.

Trenton, Michigan

Dr. M. R. Schmidt  
Mrs. Helen Hertel, R.N.

GENERAL PETROLEUM CORPORATION

Los Angeles, California

Dr. E. P. Luongo

MARKETING DIVISION

Boston, Massachusetts

Dr. John T. Quinby  
Mrs. Fannie Spongberg, R.N.

Detroit, Michigan

Dr. Carl H. Schulte  
Miss Eileen Brooks, R.N.

Milwaukee, Wisconsin

Dr. J. J. Gaunt  
Miss Louise Tullgren, R.N.

HOME OFFICE -- 26 Broadway, N. Y. C.

Mr. C. F. Beatty  
Mr. W. H. Montgomery  
Mr. J. H. Herbert  
Mr. R. G. Harmon  
Mr. W. J. Maxwell

Dr. A. E. Hoag  
Dr. H. L. Rutzler  
Dr. A. J. Tillinghast  
Miss Olga A. Ericson, R.N.  
Miss Marge V. McHugh, R.N.  
Mrs. Doris K. Krieger, R.N.  
Miss Dorothy M. Mehl, Secy.

GUESTS

Mr. E. R. Alden  
Dr. M. S. Ambrose  
Mr. L. C. Beard, Jr.  
Mr. R. J. Brennan  
Mr. G. A. Busch  
Dr. R. S. Chernuchin  
Mr. W. S. Hughes  
Dr. R. C. Hume  
Mr. E. M. Kean  
Mr. R. E. Kirkpatrick  
Mr. G. V. Moser  
Mr. J. L. Risinger  
Dr. S. J. Robbins  
Dr. G. P. Rouse  
Dr. G. M. Saunders  
Mr. J. C. Sweeten  
Mr. W. E. Thomas

MINUTES

FOURTH ANNUAL MEDICAL MEETING

November 3 and 4, 1949

OPENING ADDRESS

Mr. C. F. Beatty, Director in Charge of Industrial Relations, 26 Broadway, N.Y.

Mr. Beatty was introduced to the members of the Fourth Annual Medical Meeting by Dr. A. E. Hoag, Medical Director. Mr. Beatty began by saying that this meeting is one of the high spots of the year and that he is very proud of it. He recalled that in 1946 the group was very small, but that it has grown and developed a great deal since then. He stated that he felt that our Medical Departments were definitely a credit to Socony-Vacuum Oil Company, Inc. and to Industrial Medicine.

Mr. Beatty brought greetings and best wishes from Mr. B. B. Jennings and the Board of Directors for a very fine Medical Meeting.

THE VALUE OF AN EFFICIENT MEDICAL DEPARTMENT

Mr. W. E. Montgomery, Manager, Industrial Relations, 26 Broadway, N. Y. C.

Mr. Montgomery opened his remarks by saying that industrial civilization in the world today is entirely different than it was a few years ago. It was not too long ago that we did not have the problems we are faced with today. The industrial worker has a far different place in our civilization than it used to have. Things used to be made by hand, but this is not possible today. In too many instances in business, the man down the line has really just a small place in the operations of business (or so he thinks). No one person can say that he made a whole object. We cannot blame these people too much if they have a great deal of unrest. Job satisfaction is the lacking factor. We have come to do group thinking. We hear so much about 'labor this' and 'labor that'. We have to refrain from thinking of people as

large groups and instead, we must think of them as individuals. If we start with a group plan, we are bound to come out with a socialist reaction. Too frequently we think of the 43,000 people in Socony-Vacuum as a whole. But they all have different ideas and their wants should be satisfied individually, as much as is possible.

Our Medical Departments fit into this place, because they cannot deal with people as a mass. Each person must be taken care of as an individual because each one has his own problems and his own symptoms. Medical should work with the individual's supervisor. If we do this, we can solve a great many of our Industrial Relations problems.

In studying other companies, we find that they are successful because they try to look at their employees' problems individually. Our Medical Departments can play an important part in getting over to each supervisor the idea of developing that individual personal relationship. This will in turn improve Industrial Relations in Socony-Vacuum.

#### HOPE FOR THE ALCOHOLIC IN INDUSTRY

Mr. Eugene M. Kean, Bethlehem Steel Company, New York

In the program for today's meeting I am identified as a member of the Bethlehem Steel Company's organization. It seemed more appropriate and intimate than being listed as plain "Mr. X", an unidentified person from Alcoholics Anonymous. It is a customary tradition of this group for a speaker at a meeting like this to speak as an unidentified member, giving his own opinions of Alcoholics Anonymous and what it does.

It seems strange to me that I should be talking to you about people with whom you are quite familiar. They appear regularly in your dispensaries for medical attention, with visible symptoms which usually belie their own statements as to why they need medical help. It is discouraging to you as doctors who want to do some-

thing for these people to find that you are up against a stone wall when you try to reason with them and suggest measures for correcting their drinking habits.

I can speak to you about this problem because I, myself, am an alcoholic. I was the enigma that went to you for help. I was the bleary-eyed, nervous, beaten, shaking person who thought that there was some prescription that could be written to put an end to my difficulties.

I worked for a large corporation successfully for 15 or 16 years. In that time the graph of my employment record was on the upgrade. Apparently capable, with qualifications indicating continued success and future possibilities with the organization, the line on the graph abruptly started downward. For the following years of my service, I became the exact opposite of what I had been -- I was a problem drinker and unknown to myself, did not understand why it was that from all indications I was about to pull down my life upon me.

Usually, an alcoholic is a good worker, with initiative and ability that are not usually found in the average employee. Most of the time there is no alcoholic history in his background or family life. Friends, family and other employees who have known him for years cannot account for the complete change in his habits, character and actions. I found myself in that predicament and being thoroughly ashamed, confused and helpless to do something about it personally, I continued to get into unwanted and unsought difficulties.

I became a problem to my boss who tried to help me with advice, which confused me more and finally I was thrown into the lap of the Medical Department for assistance. By the time I arrived there, I had already sought advice from my family doctor, my closest friends and had been told to see a psychiatrist or a clergyman. I found myself the enigma that I spoke about before, again standing in the dispensary waiting to be examined and advised.

Shortly thereafter, my years of service terminated with my employers. They

had done what they could; I was apparently hopeless. My future as I thought shattered, I did not know where to turn or to whom to speak.

A doctor once told me that alcoholics are the greatest liars on the face of the earth. Today I would agree with him, but at that time I was completely disillusioned with what a doctor might be able to do to help me. An alcoholic finally realizing his helplessness and hopelessness, fearing the future and trying to hold on to what may be left, uses the lie as his only remaining defense for his actions. He is ashamed to tell the truth because who would possibly understand?

In Alcoholics Anonymous I finally found people who would understand, people who told me from their own experiences why I had done the things that I did. Coming from all walks of life, I found people there who had fought the same battles and the same problems that I had. They told me alcoholism was a disease. Alcoholics Anonymous did more for me than my family and closest friends could ever do. From their own experience, they knew the workings of another alcoholic. They asked me no questions except, "Do you think you have an alcoholic problem?" They described to me what an alcoholic was, and from them I learned that I was not a moral leper and not the irresponsible, useless person that I had been told I was. These people who without questions took me to themselves helped me to understand, that, being an alcoholic, alcohol was actually my problem and not the countless other reasons I had given myself over a period of years.

I can now live under the handicap because I know how to protect myself daily against the return of an old habit pattern. Others had tried to help me in every way, but it was A.A. which gave me the grasp on myself that I needed. A.A. has taught me humility and a limitation of my needs, demands and expectations. I was educated to the fact that I was not hopeless or useless; all I had to do was to stay away from the first drink, to use the simple A.A. formula for staying sober. I now have a sincere desire of never wanting to return to old habits, because if I

do I know that I will go back to what I was before joining A.A.

A.A. members are good people and good workers because they know that they do not have to fear the future. They never knew what it was that made them the people that they were, but that by sincerely using the A.A. program, traditions and principles, they can make themselves the persons they want to be.

Today 30,000 or 90,000 people who were supposedly useless drunkards are now successful and useful in industry and the professions. No one wants to live the horrible life of an active alcoholic, so we ask a newcomer if he sincerely wants to be sober, just 24 hours at a time, not a life-time. Of course, he says that he does and we show him how we were able to do it with the help of the A.A. program.

What is A.A.? Alcoholics Anonymous is a fellowship of men and women for whom alcohol has become a major problem. They share their experience, strength and hope with each other that they might solve their common problem and help others to recover from alcoholism. The only requirement for membership is an honest desire to stop drinking. A.A. has no dues or fees; it is not allied with any sect, denomination or any organization, political or otherwise. It does not engage in any controversy; it neither endorses nor opposes any causes. Its primary purpose is to show the individual how to stay sober and help other alcoholics to achieve sobriety. There are groups in every state of the U.S.A. and in its possessions, in Canada, Mexico and in some countries of South America. They are also rapidly opening groups in other countries. In the United States we have 3,500 groups and in the metropolitan area we have over 150 groups.

Most of the work of A.A. is done privately and individually as a result of a personal appeal from the one who wants help. A.A. members never take a call for assistance unless it comes directly from the individual. We are not interested in reforming people, or attempting to stop people from drinking if they choose to drink. We visit the person immediately and if he needs medical assistance, we take him to

a hospital. In New York City we have two wards in private hospitals where the patient is sponsored by one of our members. For a period of five days he is given the necessary medical treatment required; his personal needs are attended to by his sponsor or other members who voluntarily help out day or night in the wards. We have groups in the alcoholic wards of various city, county and state hospitals where alcoholics are confined.

A.A. does not decide if a person is beyond help. If the individual honestly and sincerely wants to stop drinking, no matter how visibly hopeless he appears to us, we will help him.

You, of the Medical Department, are the best friends an alcoholic ever had. You can give back the life that might otherwise be thrown away. Beyond the human consideration you would have for a sick person, your company's investment in an employee is considerable. Usually alcoholism develops after substantial service with the company. There is hope for the alcoholic in industry --- send him to Alcoholics Anonymous. If you ask anyone in A.A. to take care of a person or go on a call, he will drop everything that he might help at any time, day or night.

During the question period, Mr. Kean brought out the following points:

1. A person can get in touch with A.A. through the telephone book listing or the Chamber of Commerce.
2. No contributions are ever accepted by A.A.
3. A.A. does not tell a person he is an alcoholic. We tell him about our own past and problems and let him judge.
4. The A.A. Prayer:

"God grant me the serenity to accept things  
I cannot change; courage to change things I  
can and wisdom to know the difference."

ENVIRONMENTAL CANCER IN THE PETROLEUM INDUSTRY

Dr. Marshall Clinton, Plant Physician, Atlas Works, Buffalo, New York

The petroleum industry has set up a research project under the auspices of the Medical Advisory Committee of the American Petroleum Institute to study the entire carcinogenicity problem at an annual cost ranging from \$50,000 to \$100,000 per year, at the Kettering Institute for Applied Physiology at the University of Cincinnati. This work is being pursued vigorously under the direction of Dr. Robert A. Kehoe and Dr. A. Wesley Horton.

Dr. Kehoe, Dr. Horton and their co-workers have approached the problem from several aspects. They have established extensive animal facilities for determining, by testing on mice, the relative carcinogenicity of various known carcinogens such as methyl cholanthrene, benzpyrene or dibenzanthracene and various fractions taken in the course of refining operations. The procedure employed is a daily or less frequent application of the material under study to the skin of the mouse. The mice are examined periodically for the development of tumors and those animals developing tumors are observed for development of malignancy. While these results of mice experiments are not directly transferrable to man, they at least indicate the comparative carcinogenicity of unknown petroleum fractions and known substances (such as methyl cholanthrene) which are carcinogenic for both mice and men.

So far, their preliminary animal studies have revealed certain interesting and important facts about the carcinogenicity of various petroleum fractions. It appears that all fractions which possess carcinogenic activity boil above 700° F. This is most important, for it gives a convenient break-point in considering whether a given fraction or cut may be dangerous. If it boils under 700°F., it is harmless from a carcinogenicity standpoint. The practical application of this is that almost all products with which the public comes in contact, boil below 700°F. The only important exception to this is #6 Fuel Oil, which is generally handled in bulk in

heated trucks or tanks, so there is little direct contact with it. Obviously, all materials supplied to filling stations are harmless. Whether carcinogenic higher boiling fractions may be formed in crank-case oil remains to be determined.

Certain specific problems are under study, which will have practical significance from the standpoint of control of refinery operations, provided a real control problem is shown to exist.

For example, studies are under way to determine the effect of the following factors on the carcinogenicity of bottoms from the Houdry process:

1. End-point temperatures in the Houdry.
2. Effect of changing stocks. Some heavier fractions are formed within the Houdry. If the feed stock boils high, however, more heavy material will be present in the unit, and a greater concentration of material boiling above 750°F. will result, even though the operating temperatures remain unchanged.

Also under study are the relative carcinogenicity of various samples obtained from the following sources: (1) Non-catalytic gas-oil cracking. (2) Viscosity breaking of residues and extracts. (3) Naphtha reforming. (4) Polyforming. (5) Coking operations. (6) Houdry catalytic cracking. (7) Fluid catalytic cracking. (8) Thermofar catalytic cracking. (9) Cycloversion. (10) Houdryflow cracking. (11) Hydroforming. (12) Slack waxes and aromatic extracts therefrom. (13) Solvent extracts from lube oils and heavy gas oils.

Other slightly more theoretical and fundamental studies will be carried on. The effect of feed stocks on the production of carcinogens by a unit, both from the standpoint of boiling temperatures of feed stocks and hydrocarbon type (paraffinic, naphthenic or aromatic) will be determined.

The effects of the nitrogen and sulfur content of samples which are known to be carcinogenic, with study of the effect on carcinogenicity of such samples when the nitrogen or sulfur contained in aromatic rings is removed, also will be investigated.

Still another phase of investigation will involve the concentration and isolation of the specific compounds responsible for the carcinogenic action of catalytically cracked oil fractions which already have been proven to be highly carcinogenic by biological testing.

Finally, epidemiological studies of the incidence of cancer within the petroleum industry will be carried out. These epidemiological studies will take many years to yield useful results, as adequate records have been kept only recently and the "incubation period" of environmental cancer is so long. These studies will not be limited to obvious occupational cancer, especially skin cancer, but will apply to all types of cancer.

It is our belief that the petroleum industry probably has a good record in respect to environmental cancer. If this is not the case, however, it is most desirable that the industry as a whole become aware of this problem and voluntarily take corrective action before the government discovers the existence of a problem and legislates its control.

#### THE IMPORTANCE OF COMPLETE AND ACCURATE HISTORIES IN COMPENSATION CASES

Mr. W. J. Maxwell, Assistant Manager of Claims, 26 Broadway, New York City

Histories in my work concern those occurrences to employees which are or later may become matters under various Workmen's Compensation Laws. We cannot discuss histories without also touching upon medical records.

In handling Workmen's Compensation matters, it is sometimes necessary to have medical testimony produced in Court, not only perhaps to determine our own liability, but also very often to straighten out in some other lay mind a medical question. Very few of our Referees are doctors. They are there to hear the facts, weigh the evidence and then come up with a decision as to the compensability of a case, causal

relation between the accident and the injury claimed, extent or amount of disability resulting from such an accident and so forth. In New York State, the contents of medical and surgical reports by approved physicians, introduced into evidence, constitute prima facie evidence of fact as to the matter contained therein.

Now let us talk about the type of histories that we are particularly interested in. The history should, as near as possible, be in the words of the person relating it to you. We do not think a good history is directed by your remarks or your conclusions, which might be transmitted to the person telling you what happened. We want to know, "What did the employee say to you?", without your assuming as a fact that he or she did or did not have an accident, or that these things did or did not happen. Do not suggest the words that the patient should use, or do not suggest to him something that he can then take as a likely happening. We have heard compensation claimants say, "Oh, the doctor said I must have lifted something."

In most of our cases you are the first attending physician. Of course, the first question you are going to ask is, "What happened? Tell, me Joe, in your own words just what happened." After you put that down rather completely and not in just one or two or three words, then we think you will ask, "When did it happen? Where? Was someone else with you when it happened? If so, who was it? What were you doing before this occurred?" Perhaps in some cases you are not the first physician to see the man. But, even at that time, you should get a complete history. Ask the man, "What were you doing before this happened to you? When did it happen? What were you doing at the time? What did you do after that? How did you get home? How did you get to the first-aid room? How long were you in bed, or at home? Who was the first doctor who saw you? Was there someone with you when you got hurt? What did the first doctor do in the way of treatment? Were there X-rays taken, if so, where?" These questions, of course, will suggest themselves to you depending on the nature of the condition you are confronted with.

We certainly are interested in his present complaints. We would like you to itemize as completely as possible, both objective and subjective complaints. Certainly we want to know what the man thinks hurts. Whether you agree with it or not, that is another question, but we do think all of those complaints should be listed. We would like a rather definite answer as to the exact anatomical location, not a general one such as pain in his back, pain in his arm, or pain in his head. We would so much prefer to locate the vertebra level of a back pain; which side is involved, if possible; the particular muscle or muscles. Very often these questions become of the utmost importance when recurrences are alleged resulting from old injuries. We are in a rather bad spot if we simply said originally that the man complained of a pain in the back, when in fact it was in the very high part of his back and then six or seven years later arthritic changes or some other pathological change causes a pain in the low back, which probably may not be related to the original occurrence at all, but which we are almost precluded from denying because previously we had said that the accident caused pain in the back.

In your record it is also important that we have your diagnosis. Most important to our department is to know if the condition is related to the claimant's job in any way. Causal relationship is sometimes one of the most baffling matters in accident cases and more so in many diseases. You doctors should consider whether the diagnosis is based on objective or subjective symptoms and tell us other possible causes of such a condition.

When an employee is referred to his own physician for some health condition for treatment or examination, we believe every effort should be made to obtain a written medical report containing at least a diagnosis from the employee's physician. This will be of value to our department if at some future time claim is made that an injury or circumstances of employment caused or aggravated such a condition.

Questions:

1. How much information should be given to the Foreman? --- Anything that is considered confidential medical information is not to be revealed unless it will help to keep a man from harming himself by doing the type work he is doing. Management should be careful not to mis-use any information given to them by the Medical Department. The correct relationship must still be kept between Management and the Medical Department.

2. When an elderly patient has an examination and a hernia is found, is it wise to tell the patient of this condition? Yes.

3. Is it necessary that the history of an accident appear in the original handwriting of the physician? --- No, the history may be typewritten and then signed by the physician.

PRE-PLACEMENT EXAMINATIONS -- VALUE OF ACCURACY FOR LONG-TERM SERVICE

Dr. H. L. Rutzler, Associate Physician, 26 Broadway, New York City

The importance in the pre-placement examination of a particular person for long-term service with the Company is important because the Company puts a certain investment in each man it employs. Therefore, a physical examination is necessary.

Also, we must take into consideration the tendencies to diseases which are absent at the time of examination, but are chief factors of death and the cause of absenteeism. In regard to long-term employment, the psychological make-up of the individual plays an important role.

A study must be made of the applicant's previous job history, previous medical disability and history of frequent job changes.

As we are looking for signs of impending absenteeism as well as failure in long-term service, we should look out not only for infectious diseases, but also for organic and psychological illnesses.

Since absenteeism and early pensioning because of illness are costly for American Industry, rejecting for psychological, emotional and physical reasons are necessary.

Among the diseases which will hinder the employee in long-term service are cardiac disease, hypertension, diabetes, obesity, hypotension, hearing and visual defects.

#### CONTACT DERMATITIS IN THE PETROLEUM INDUSTRY

Dr. S. J. Robbins, Consulting Dermatologist, New York City

After a careful survey of the incidence of contact dermatitis in the petroleum industry, we can safely state that general precautionary measures have reduced the cases of dermatitis to almost a minimum. In the various stages of oil production from the well to the refinery, we encounter industrial hazards which expose the worker to a dermatitis.

In a recent study of 11,000 men employed in three refineries, 196 cases of dermatitis of industrial origin were seen over a period of two years. In another large refinery, there were 98 cases recorded in the statistics of approximately 16,000 treatments given in a dispensary. By far the largest number of cases of dermatitis of industrial origin were due to acids and alkalies. Although distillates such as naphtha, gasoline and kerosene are powerful fat solvents and will cause dermatitis on the skin if allowed to stay in contact, there were no cases of dermatitis in these refineries attributable to the action of petroleum and its distillates. This is probably due to the modern methods of enclosed refining in which the worker does not come in contact with any of the materials. Occasional cases of chronic dermatitis were seen, caused by caustic deposits in pipes leading from neutralizer tanks. The members of the maintenance crews in these refineries were required to inspect, repair and clean out pipes and they did not wear the proper protective gloves.

In another study, cases of acute dermatitis were found in a series of oil field workers. These cases were characterized by vesicle formation, crusting, desquamation and erythema. Upon checking the possible cause, it was found that these cases of dermatitis were attributed to petroleum solvents such as pearl oil and Stoddard's solvent, which were used by the workers in cleansing their hands after work. Dermatitis occurs among the users of petroleum and its distillates and probably those men frequently effected are machinists and mechanics who are exposed to cutting oils. The principle types of dermatitis from lubricating and cutting oils are eczematous types and most frequently lesions are caused not only by oils, but also by small particles of metals which the cutting oils contain after they have been used. These wound the skin of the workers and allow the entrance of pyogenic organisms and infections. Thus folliculitis and furuncles ensue on the skin.

All petroleum oils have the property of defatting the skin and this defatting action is lessened by the animal or vegetable oil content included in the cutting oil. Since these cutting oils do not contain a large percentage of animal or vegetable oils, their action does not altogether counteract the defatting action on the skin. The chlorine content of the cutting oil may be high enough to irritate the skin and heavy chlorinated hydrocarbons may cause chloracne and folliculitis of the exposed parts of the skin. A sulphur fraction of the cutting oil may cause a dermatitis because of the actual chemical effect of the sulphur on the skin or because the sulphur may be converted into hydrogen sulphide or sulphur dioxide from the heat generation of the cutting operation. When the animal or vegetable oils are rancid, they may irritate the skin of some of the workers. There are various types of dermatitis from these cutting oils, the most frequently seen are folliculities and acne, which generally occur on the extensor surface of the forearms and thighs where oil soaked sleeves and trousers have been in contact with skin.

Prevention and Treatment -- Many protective ointments and "invisible skin gloves" arrangements have been suggested. A bland ointment containing lanolin and

olive oil should be rubbed into the skin, then washed off with soap and water before eating lunch and re-applied after work before going home. The wearing of synthetic rubber gloves over such an ointment is also of value. Compulsory and supervised shower baths after work should be a rule among workers of petroleum products and greases. The workers should be furnished with clean work clothes daily. The use of strong alkaline and abrasive soaps and petroleum solvents should be avoided for cleaning hands. Sulfonated vegetable oils such as sulfonated olive oil or castor oil should be provided to clean grease and crude oil from hands. These vegetable oils can be washed off with ordinary toilet soap and water, and they serve the function of supplying the skin with those natural oils which have been removed in the defatting process. By applying a combination of lanolin and castor oil to the skin before going to work, the pores of the skin are filled with this mixture and prevent the entrance of crude oil. This is then washed off with sulfonated vegetable oil. It would also be advisable for well pullers and other workers who are exposed to crude oil to wear coveralls of pliofilm, Koroseal or any other plastic material which is oil-proof, in order to prevent soiling their clothes with crude oils and distillates. Well drillers, rig builders, pumpers, etc. should be supplied with the proper gloves. The most desirable and practical glove is one which is fabric lined, so that moistness and clamminess from the perspiration of the skin may be prevented. Water-soluble films afford some protection against solvents such as, chlorinated hydrocarbons, petroleum distillates and other solvents.

The petroleum industry has been especially fortunate about the low incidence of occupational skin eruptions; especially contact dermatitis and we have been rewarded with these successful results because of our constant vigilance, care and efficient preventive measures.

## PRACTICAL THERAPY OF ESSENTIAL HYPERTENSION

Dr. John T. Quinby, Physician for New England Division, Boston, Massachusetts

One point which we tend to forget is that hypertension is not always a disease. We mean by this that up to a certain point, an increasing blood pressure, going with morphological changes in the blood vessels, is a normal part of the aging process. There can be no hard and fast line here, but only a sort of middle zone between the clearly normal on the one hand, and a definite disease state, namely essential hypertension, on the other. Not a few patients fall into this middle zone and it is not the best management to treat them as though they had a disease.

Granted, however, that essential hypertension unquestionably is a disease entity; there are many conditions in which the blood pressure is elevated which can be separated from it. Our first job in tackling this problem is one of making a diagnosis. If by exclusion the condition is found to be essential hypertension; that is, hypertension of unknown cause, then an evaluation of the degree and duration of the condition is needed and is furnished by a routine study. We wish to know where in the natural history of this disorder the patient stands. By this, we mean specifically what is the patient's age; how long has significant hypertension been known to exist; is the patient male or female; what has been the history of the patient's family in regard to cardiovascular disease? Perhaps of the greatest prognostic significance, next to the sex of the individual (females tolerate the disease better than males) is the age at which the hypertensive process began, so far as this can be established.

We all agree that in general, a work-up should consist of measurement of the blood pressure and an evaluation of the state of heart, kidneys and brain, including the eyes. When we speak of measuring the blood pressure, however, it cannot be overemphasized that this should comprise a large number of readings, taken under varying conditions and over some period of time.

The laboratory studies, in the mild case, can usually be limited to urinalysis, hemoglobin, non-protein nitrogen, chest film, electrocardiogram and examination of the fundi. More elaborate tests can well be deferred or omitted, except where the individual is so seriously ill that hospitalization and very complete study are indicated.

Three qualifications to the foregoing should be noted: (1) In persons under 45 years, except in the mildest cases, a test with a sympatholytic agent such as dibenzmine or benzodioxane should be done. This rules out the rare case of pheochromocytoma. (2) We should like to stress the importance of the history. The more one learns about essential hypertension, the more important prognostically are the factors listed above as pertaining to the natural history of the disease. (3) It is very important to get an impression of the patient in his home and business setting, to learn how much stress from the outside there may be as a factor tending to produce symptoms.

Here we may consider the question of what to tell patients about their blood pressure. The important point is not just what you tell them, but the way you do it, in other words, the idea that you convey about the seriousness of the situation.

Fundamentally, of course, we must tell patients the truth. But the point is that we should never just give them the figure alone, in regard to their blood pressure. It should always be accompanied by a word of explanation.

We should explain, first of all, the relative unimportance of any single blood pressure determination and of how a series of readings, taken under all the varying conditions which affect blood pressure is needed, in order to say just what a patient's blood pressure really is. In other words, we introduce the patient to the idea that the blood pressure is not a fixed quantity. In health, as in illness, it is a constantly varying quantity. This helps to dispel some of the anxiety that tends to center in the patient's mind around one number as a symbol of his health and longevity.

In our word of explanation, we should make the patient feel, where we can justifiably do so, that although his or her blood pressure is somewhat above the usual level, this probably does not mean that a serious illness is involved. Probably the patient can look forward to many more years and effective living, with the observance of certain rules of hygiene and preferably with some continuing medical contact as a regular thing. This sort of reassurance cannot be furnished the patient with the rapidly advancing, malignant type of hypertension.

We must give the patient that lift which comes from feeling that there is something he can do about it. If we tell him that he has an abnormality or a problem and can then give him a fairly definite program by which he can improve the situation, we have started him on the road to the optimum management of his hypertension.

This brings us to consider those measures which reduce blood pressure or alleviate symptoms -- namely, surgery and drugs. We find that there is no specific treatment for hypertension in the sense in which insulin is specific for diabetes. One drug after another has been enthusiastically hailed and then after a time it is more or less discarded as being of no great benefit.

Concerning surgery, it is difficult to evaluate this form of therapy because of the varying type of surgical procedure which has been employed and because of the long follow-up period needed to determine the effect of treatment. In general, most people working with hypertensives feel that surgery has a place, as another instrument in our armamentarium. It is probably suitable only for the patient under 45 years of age, preferably female, who has a rapidly advancing type of disease, with eyeground changes, usually and a very high diastolic pressure.

Results of surgical therapy have been perhaps most carefully studied in the series of 250-odd patients operated on by Dr. Reginald H. Smithwick at the Massachusetts General Hospital. It appears that of this series, one patient in five secured a worthwhile reduction in blood pressure from his operation. Other benefits,

notably the relief of headache, were secured by patients who had no real fall in pressure.

The results with the use of the rice diet for hypertension are still the subject of controversy. This is because we have not yet had enough experience with it in the way of carefully controlled trial. In our experience, the benefits tend to be lost when the patient returns to his former normal diet. The use of the rice diet for patients who are less ill is aimed chiefly at the relief of symptoms, such as headache, dizziness, etc. It is hard for the patient to stay on the diet. It is essentially impossible for him to stay on it without motivation and he needs a lot of help in addition to his own desire for better health. We feel that the minimum set-up is full-time dietitian, weekly visits by the patient and organizing the care on a group therapy basis. Practically speaking, it is not feasible for an individual physician to undertake it.

Veratrum irride is a 100-year old drug which is a mixture of some ten or twelve alkaloids. Of these, only a few have been separated and tested. One of them, protoneratrine, appears at this early stage of our studies to have the best hypotensive action and the fewest side-effects. In using the mixture, it is found that the response varies in the same patient at different times and also from patient to patient. This has been thought to be because the composition of the alkaloidal mixture varies between one batch and another. The toxic side-effects include nausea, vomiting, slow pulse and a hypotensive effect so marked as to lead to (peripheral) vascular collapse. If the drug is administered by mouth and with care, however, it can be used without great danger; usually nausea and vomiting will warn of too large dosage before serious bradycardia or collapse occurs.

In conclusion, we can say that essential hypertension is a disease as yet poorly understood. We have not specific treatment for it, but a number of measures, more or less helpful, are those we are currently using. As time goes on, it is our

hope to learn more about the fundamental nature of the disease process and to arrive at more effective therapy. Until such time, however, the general management of the patient and his disease are of equal importance with the more definite measures, such as they are today.

#### THE VALUE OF X-RAY FINDINGS IN THE INDUSTRIAL WORKER

Dr. A. J. Tillinghast, Roentgenologist, 26 Broadway, New York City

If properly employed, X-ray work is an essential part of the armamentarium of present day medical practice. The industrial medical department must have X-ray facilities for thorough evaluation and proper handling of patients. It is indispensable in fracture work, foreign body localization, the investigation of various gastro-intestinal and urological problems. It is, however, the radiographic examination of the chest which offers so much to the welfare of the industrial worker.

Routine chest X-rays including pre-placement, pre-travel and periodic examinations not uncommonly disclose unsuspected lesions. This includes circulatory pathology as well as pulmonary lesions.

Pulmonary tuberculosis may exist in its early or minimal state with few if any symptoms. In addition, fibrosis, emphysema, bronchiectasis, pneumoconiosis lung tumors and mediastinal tumors may be first discovered on routine chest films in the absence of any significant symptoms. The recognition of these lesions on a roentgenogram presupposes quality in the roentgenogram which requires a good technical staff and good equipment. It also requires the service of a trained radiologist.

The incidence of pulmonary tuberculosis is still high. The importance of early diagnosis is obvious. The institution of prompt, adequate treatment and care will render a high percentage of the cases arrested or cured.

Nation-wide mass surveys are, to date, impractical. There are limits to equipment and adequately trained personnel. Public health agencies and now industry have done much to detect cases of unsuspected tuberculosis.

Robins and Ehrlich a few years ago presented a paper before the Radiological Society of North America on "Group X-ray Surveys in Apparently Healthy Individuals". Their paper covered a study of 73,000 individuals in the period from January 1937 to September 1938. The study was made on people in New York City, composed of high school pupils, people on home relief, prisoners and homeless men. In the entire series 2,007 cases of active tuberculosis and 1,068 cases of arrested tuberculosis were found. This is a disturbingly high incidence!

The detection of unsuspected pulmonary tuberculosis is of vital importance to the industrial worker individually and collectively, but it is also important to the employer. The loss of any trained and experienced employee by illness, whether he be an executive or manual worker, represents an investment loss and an economical set-back to the employer or company. Minimal and even moderately advanced cases of pulmonary tuberculosis are not only amenable to treatment, but also it is extremely important to remove the active tuberculous patient from contact with his fellow worker. Frequent X-ray examinations constitute the only satisfactory method of detecting pulmonary tuberculosis.

It would appear that primary carcinoma of the lung is on the increase. Whether this is apparent or real is beside the point. It is one of the most common forms of cancer in the male. It appears chiefly in the 40 to 60 year age groups and better than 90% of those afflicted are males.

The diagnosis of primary lung cancer requires cooperation between clinician, roentgenologist and bronchoscopist. The roentgenologist is generally the one who directs the investigations toward a final diagnosis. X-ray provides the earliest and most reliable lead to the diagnosis. Various reports in the literature size

an average period of from 6 months to nearly a year in a majority of the cases between the onset of symptoms and the final diagnosis. This is an unfortunate and lamentable state of affairs. All patients with a chronic productive cough and particularly males in the 40 to 60 year age group, should be investigated with the possibility of bronchogenic carcinoma in mind. A chest roentgenogram should be the first procedure in the course of investigation.

The early recognition of this lesion makes possible successful surgical treatment with complete cure in a high percentage of cases. In industry where there are adequate X-ray facilities available with a trained roentgenologist, a gratifying number of early, operative cases should be uncovered. The advances in chest surgery technique in recent years has made resegmentectomy lobectomy and even pneumonectomy, in good hands, a relatively simple procedure. The post-operative patient can resume a normal active life in a comparatively short period of time. Thus a valuable member of an organization may be returned to a job for which he is trained instead of being lost to it forever.

Many other lesions can and should be diagnosed early. Mediastinal tumors, emphysema fibrosis, bronchiectasis, cardiac lesions and countless other conditions in the chest and elsewhere can be materially benefitted by early diagnosis with consequent early treatment, either medical or surgical. The X-ray is only a part of the whole picture, but its availability to the industrial worker may spell the difference between early detection with cure or improvement and an irrevocable "too late."

RELATIONSHIPS BETWEEN THE INDUSTRIAL MEDICAL DEPARTMENT AND THE PRIVATE PHYSICIAN  
Dr. E. P. Luongo, Medical Director, General Petroleum Corporation,  
Los Angeles, California

It has not been too long ago since a considerable number of private practitioners looked upon physicians in industry with an attitude of disapproval. This

was engendered by a feeling of suspicion that the industrial physician was engaged in contract medicine. Many felt there was a possibility that industrial medical practitioners would make inroads on the family physician. Some felt that the physician-patient relationship would be disturbed by the injection of a third party. However, the attitude of private practitioners was caused mainly by the lack of proper working relationships between the two. The caliber of some industrial physicians, 20 years ago, was not high. Their interest was focused too much on compensation cases and industrial liability of the employer and not enough on the prevention of disease and employee health maintenance.

The private practitioner today is primarily interested in the treatment of disease, but most of them recognize the important role played by industrial physicians in detecting disease processes early and referring employees to private physicians before irreparable damage is done.

The plant physician of today is governed by the same ethical standards as his professional colleagues engaged in the private practice of medicine. Many industrial physicians are, or have been, successful private practitioners. They realize the problems of general practice. Most of them are governed by a spirit of cooperation with private practitioners in the community. Upon this cooperation may hinge the success or failure of a preventive medical program in an industrial plant.

There is still a line of demarcation in interests between the private practitioner and the industrial physician. The industrial physician deals primarily with well people and subclinical cases, whereas the private practitioner deals with those that need treatment for disease. The industrial physician must translate disease or injury or their effects into terms of working capacity, whereas the private physician usually knows little of the patient's work problems or environment.

The relationships established to bridge the gap in interests may determine, first, the effectiveness of the industrial medical department; second, the reputa- /

tion of the plant physician among his colleagues in private practice in the community; and third, but not the least important, the opinion of the employee with regard to the practice of medicine in general.

The pre-placement examination is a means of bringing to the attention of the prospective employee the condition of his health and emphasizing the importance of obtaining immediate and adequate medical care, if necessary. Obviously there is no purpose in undertaking a physical appraisal of an individual if the findings of the examination are to be filed in the archives of the medical department and nothing further done with them. Further, there is not much sense in discussing physical defects with an individual unless some salesmanship is used in getting him to his private physician for whatever medical care he needs. There must be an emotional as well as intellectual appeal to the employee.

We feel it advisable, even on pre-placement examinations, to contact private physicians and point out the significance of correctable defects found from the standpoint of working efficiency of the employee and a long range view of his health while employed with the company. We go as far as to arrange appointments for the employees with the offices of private physicians.

There are defects which are found on pre-placement examinations which are correctable, but are disqualifying until such time as they are corrected. In such instances, physical limitations are issued on the applicant and it is left up to the supervisor to determine whether the requirements of the job are compatible with the limitations. Even if the requirements are compatible, employment is approved with the understanding that the defects must be remedied during probational period of employment.

Occasionally an applicant with disqualifying physical defects will consult a private physician and attempt to obtain an opinion from him which will support his desire to gain employment. Occasionally such opinions are received with a

general type of statement from the private physician which are in conflict with the findings of the medical department. Sometimes it is obvious that the examination was incomplete and the requirements of the job were misrepresented by the applicant to the private physician. In such instances we are very willing to contact the private physician, furnish him whatever information we have and give him a true picture of the job requirements, working conditions and occupational hazards. We are not obliged to do this, especially in the case of applicants, but we feel that it is good public relations with physicians in the community.

Under the annual examination programs, contacts with private physicians are more numerous. There are three important and essential steps in connection with handling an annual examination: (1) The medical history; (2) The physical examination, including any laboratory procedures which may be indicated; and last but not least, (3) A general discussion of the findings with the employee, which should include advice as to the necessity of correcting minor or major defects found. Point #3 is extremely important. Before we advise an employee to see his private physician, we must first convince him that he has a defect needing medical care. We should then give him whatever information is available, including laboratory reports to take with him to the private physician.

It is desirable to have a definite diagnosis before sending an employee to his physician. This is a protection to the employee, to us, and we have found that private physicians appreciate this type of referral.

Occasionally employees will come to medical departments complaining of lack of progress under treatment and with questions as to whether some prolonged and often expensive treatment is justified. Before any opinion is ventured, it is extremely important that the industrial physician speak to the private physician, preferably while the employee is in the office. This will avoid much misunderstanding and embarrassment to all concerned.

Relationships between the medical department and the designated company physicians treating occupational injuries and diseases are usually fairly well established with a clear mutual understanding of problems involved. Often the designated physician is also the employee's private physician.

Private physicians or designated physicians should be urged to contact the plant medical department or the injured employee's foreman regarding the nature and the physical capacity requirements of jobs. This will also avoid the few cases of employees, who, because of insignificant types of injuries, stay away from work by distorting the physical requirements and hazards of their jobs to the attending physician.

Private practitioners may unwittingly become part to unwarranted and even fraudulent claims of occupational disease or injury because of lack of knowledge of industrial conditions. Employees occasionally make diagnoses of occupational disease on hearsay. In these cases, the industrial medical department should contact the private physician, indicate its desire to control all health hazards and convey willingness to cooperate in investigating the case in question. The industrial medical department usually has a knowledge of the exposure and is able to advise the private practitioner as to the kinds and amounts of substances, whether they be gases, dusts, or fumes, with which the employee comes into contact. Ordinarily the private physician on being apprised of the facts will look elsewhere for the basis of the employee's symptoms.

Occasionally the action taken by the medical department becomes a labor relations matter. Most of these situations can be resolved amicably by frank discussions between the plant physician and union representatives. Such approaches to the medical department should be made through proper industrial relations channels. The practitioner often is not familiar with the employee's usual work or may have a distorted opinion of it presented to him by the employee. In such instances, it is important to explain to union representatives the nature of the

physical findings on record in the medical department and to indicate what procedures were necessary in arriving at these findings. If an agreement cannot be reached on the diagnosis, the industrial medical department should be willing to have the employee given an examination by one of its specialists in the particular field of medicine involved.

In summary, it should be emphasized that industrial medical practice is being given rightful recognition and proper status. It is becoming recognized as a specialty in its own right. To perpetuate this status, every industrial physician has certain responsibilities in his relationships with other members of the medical profession. Industrial medicine, if properly practiced, taxes the ingenuity of a physician more than any specialty. He must be conversant with the principles of all specialties in medicine and deal with his colleagues in private practice, showing basic knowledge of their problems, whether these be related to pediatrics or brain surgery. To hold or win their confidence, he must display a well rounded knowledge of his own field, including industrial hygiene. If he himself is confused, he cannot be expected to clarify problems for others. In addition, he must have a firm grasp on principles of human relations and public relations. He must realize that it is not sufficient to convince people intellectually, that they must also be convinced emotionally. This applies not only to the patient, the employee, but also to his dealings with his colleagues in private practice.

## WHY MEDICAL RECORDS?

Dr. M. N. Howard, Plant Physician, East River Operations

A ripple of the wave of medical progress lapped at a small New England community. The Town Council decided it was time to start a Health Department and appointed as Commissioner the old country physician. The doctor was much too busy delivering babies or removing herniated intervertebral discs to attend to the paper work the new department required and this was delegated to a bright young clerk. At the annual meeting of the Town Council the doctor, per tradition, rushed in late and his clerk handed him the report the latter had prepared. The doctor looked in bewilderment at the figures on the page, finally selected a line and read, "The mortality for the year was 2.9." He sat down. There was a momentary silence until someone asked, "Say Doc, what does that 2.9 mean?" The good doctor scratched his chin and said, "Darned if I know. Guess it means two died and nine are on the point of doing so."

Progress has been swirling about the Socony Vacuum Medical Departments too these past few years, its force more that of a tidal wave, and not infrequently when additional voluminous health records are requested, the question is raised, "What is the point of collecting all these figures?" A pertinent question when we consider that the detailed reporting system established to cover all phases of our Medical Department activities requires a considerable expenditure of time. Why not utilize that time for the treatment of patients rather than on this paper work? As a matter of fact these reports will effect a savings in both time and effort. I believe I can best prove this by discussing some of the records we have kept at the East River Medical Department and our interpretation of the point that embarrassed the old doctor.

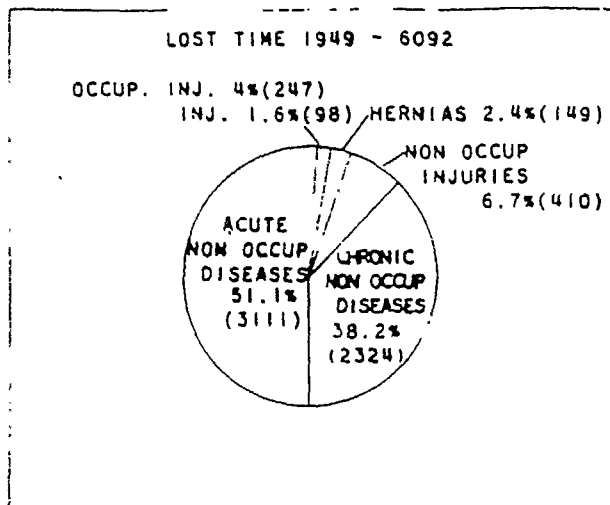


Figure 1

Figure 1 is an analysis of the 6,092 man-work days lost as the result of all medical causes during the year 1949 in our group of 1,478 employees. Note that only 4% of this lost time is due to occupational injuries or illnesses. (This includes a 2.4% loss resulting from hernias which in many states are not considered occupational in cause).

Non-occupational injuries, sustained away from the plant, accounted for 6.7% of the lost time. The remainder, 5,435 days or 89.3%, was due to acute and chronic non-occupational illnesses. The goal of industrial medicine may summarily be stated to be the improvement and the maintenance of the health of the employees so that all are at their jobs all of the business time, working at maximum efficiency. It is obvious from Figure 1 that to attain this objective our Medical Departments must direct their most vigorous efforts towards the non-occupational group of diseases.

Figure 2 is a resolution of this paramount group of non-occupational diseases into the ten leading causes of lost sick time. The acute illnesses are those diseases which are self-limited in time or amenable to rapid and definitive cure, as opposed to the chronic group

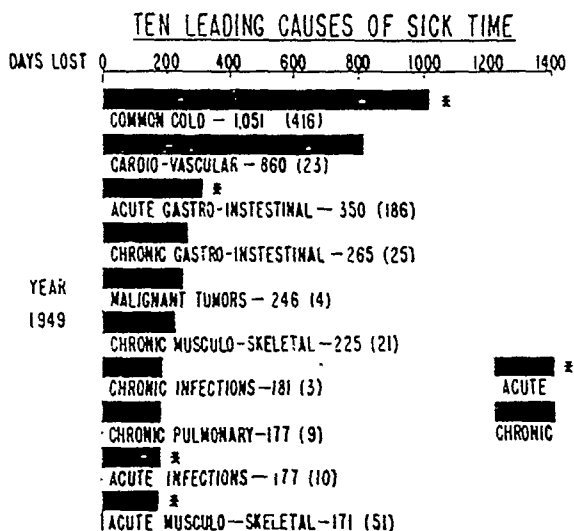


Figure 2

that persists, with or without alternating periods of exacerbation and remission, over a prolonged period. The numeral to the right of the listed cause represents the number of days lost and the parenthesized figure the number of employees invalidated by that particular illness; e.g. common colds caused a loss of 1,051 days in 416 cases. A study of the figures indicate that our principle problem at present is the discovery of a means of prevention of common colds. In this connection our Medical Departments have been experimenting with varied measures in an attempt to lessen the incidence and the severity of the acute upper respiratory group of diseases.

Next in importance is the solution of the medical problems associated with the process of aging, apparent from the prominence of these chronic diseases among the ten leading causes of ailing. Although in the main a task for research bodies such as the National Heart Institute, our Medical Departments can do much in this field to delay, if not prevent, the onset of disability and suffering by the early detection of the malady on periodic physical examinations of the apparently well employee and the prompt institution of therapy.

Figure 3 scrutinizes the manner in which the time of the Medical Department personnel was utilized. The lower portion of the figure shows that over a period of a year 91% of our 1,478 employees was seen at our department at least once. There was a total of 12,527 visits to the department during the year of which 5,881 were for a new diagnosis, and 6,646 for follow-up examinations.

#### ANALYSIS MEDICAL DEPARTMENT TIME

|                            |            |
|----------------------------|------------|
| COMPENSATION CASES         | 1529 - 13% |
| NON-OCCUPATIONAL INJURIES  | 305 - 2%   |
| RETURN FROM ILLNESS        | 1373 - 11% |
| PERIODIC PHYSICAL REVISITS | 647 - 5%   |
| GENERAL MEDICAL COMPLAINTS | 8673 - 69% |

|                                  |                |
|----------------------------------|----------------|
| TOTAL VISITS: (OCT 48 - SEPT 49) | 12,527         |
| FIRST: 5881                      | NO. EMPL. 1478 |
| REVISITS: 6646                   | % SEEN 91%     |

Figure 3

The upper portion of the figure shows the category of conditions which occasioned these visits and is self explanatory. Thus, 85% of our time was devoted to the care of non-occupational illnesses which, as has been shown in Figures 1 & 2, is our chief concern.

#### DIRECT MEDICAL SERVICE

|                    | X   | ER<br>S/V | LOST TIME % |
|--------------------|-----|-----------|-------------|
| NEW INJURIES       | 45% | 8%        | 4%          |
| REVISITS INJURIES  | 25% | 5%        |             |
| MEDICAL COMPLAINTS | 26% | 76%       | 96%         |
| RETURN ILLNESS     | 4%  | 11%       |             |

Figure 4

Recently the literature contained a report from the Medical Department of one of the largest industrial concerns in the United States. Column X of Figure 4 is their analysis of the direct medical services they provided their employees. Column ER-S/V is a similar analysis of these same services at the East River plant. Column 3

represents the percentage of lost time at the East River in the two large divisions of occupational injuries and non-occupational sickness. It is evident that our apportionment of time is the correct one for it would be a misdirection of our energies to devote 70% of our time to correcting conditions which account for but 4% of our illness absenteeism. The recognition of this fact by industrial medicine has been tardy for it is only in recent years that its program has transferred the emphasis from compensation medicine to the care of non-occupational diseases in the industrial picture. Dr. A. E. Hoag, our Medical Director, stressed this phase to me in 1935 when I was first introduced to industrial medicine.

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# RESULTS FLU A-B VACCINATION

|         | TOTAL<br>VACCINATION | ONE<br>DOSE      | TWO<br>DOSES   | NO<br>VACCINE     |
|---------|----------------------|------------------|----------------|-------------------|
| 1946-47 | 447                  | 4.5<br>(480/107) |                | 3.6<br>(950/261)  |
| 1947-48 | 453                  | 3.5<br>(273/78)  | 2.4<br>(59/25) | 3.1<br>(1171/383) |
| 1948-49 | 224                  | 2.7<br>(132/47)  | 4.3<br>(60/14) | 3.3<br>(606/184)  |

Figure 5

Mention has been made of the common cold as the prime cause of our sick list and of our efforts to reduce this morbidity. Figure 5 represents an evaluation of the effectiveness of one of the measures tried, the administration of Influenza Virus A & B Vaccine as a preventive of acute upper respiratory infections. Except for the winter of 1946-47 we have divided the individuals under study into three groups: those receiving one dose of vaccine, two doses, and the control group which received no medication. The number of days lost due to illness caused by the common cold, (used here as an all inclusive diagnosis) was taken as a measure of effectiveness of prevention. Thus, in the vaccinated group in 1946-47 there were 4.5 days lost per individual (480 days by 107 employees). Although many technical factors may challenge the validity of these figures, our study serves to show no appreciable or consistent difference among the groups. This conclusion is in agreement with studies conducted elsewhere and we have discontinued the administration of this costly and non-productive medication.

# AGE GROUP STUDIES

| AGE GROUP | NO. EMP. | DAYS LOST | NO. OF ILL. | AV. PER EMP. | COLDS    | AC. G.I. | PNEUM. | CANCER | H.C.V.D. |
|-----------|----------|-----------|-------------|--------------|----------|----------|--------|--------|----------|
| 20-29     | 164      | 330       | 120         | 2            | 151 (50) | 37 (24)  | -      | -      | -        |
| 30-39     | 267      | 558       | 155         | 2.5          | 126 (55) | 70 (44)  | .6 (3) | -      | -        |
| 40-49     | 282      | 708       | 134         | 2.5          | 185 (54) | 59 (27)  | 9 (4)  | -      | 27 (7)   |
| 50-59     | 324      | 1253      | 113         | 3.9          | 95 (32)  | 62 (18)  | 50 (2) | 75 (2) | 287 (7)  |
| 60-65     | 138      | 717       | 55          | 5.9          | 109 (15) | 10 (2)   | 42 (2) | 51 (2) | 250 (5)  |

Figure 6

## CODE:

|               |   |                                                                |
|---------------|---|----------------------------------------------------------------|
| Age group     | - | Inclusive ages.                                                |
| No. Empl.     | - | Number of employees in the age group.                          |
| Days Lost     | - | Number of days lost due to all illnesses in the group.         |
| No. of Ill.   | - | Number of individuals in the group who were ill.               |
| Av. per Empl. | - | Average number of days lost by each ill employee in the group. |

## Colds:

|          |   |                                             |
|----------|---|---------------------------------------------|
| 151 (50) | - | 151 days lost by 50 employees due to colds. |
| Ac. G.I. | - | Acute gastro-intestinal disorders.          |
| Pneum.   | - | Pneumonias                                  |
| H.C.V.D. | - | Hypertensive cardio-vascular diseases       |

In the investigation of any medical problem consideration must be given to many diverse factors. For example, to discuss the incidence of heart disease in a particular industry, we must know what age groups are involved. With this in mind, we have instituted a study of age groups in correlation with several medical situations. Figure 6 represents a partial analysis of this record.

By the utilization of such records, we can more exhaustively review our medical problems. It is apparent that the 50-59 age group had the greatest amount of

lost time, in the main due to cardio-vàscular diseases. We should, therefore, particularly concentrate on this group to have periodic physical examinations, paying special heed to their heart and blood pressure. A careful review of such records will alert us to search for specific items in each examination. Other conditions recorded such as accident frequency by age groups, have not been included on the chart because of the lack of space.

#### MORTALITY STUDIES 1946-49

| TOTAL NO. | AVERAGE AGE           | LENGTH OF SERVICE  |
|-----------|-----------------------|--------------------|
| 68        | 56.4(26-85)           | 27.4(1-45)         |
| CAUSES:   | CARDIAC 21(54.2)      | CIRRHOSIS          |
|           | CANCER 10(56.7)       | LIVER 3(64)        |
|           | GI TR. 5              | SUICIDE 2(40)      |
|           | BRAIN 2               | ACCIDENTAL 1(54)   |
|           | BREAST 1              | POLIO BULBAR 1(30) |
|           | TESTICLE 1            | UNKNOWN 24(69)     |
|           | UNKNOWN 1             |                    |
|           | CEREBRAL HEM. 4(56.8) |                    |
|           | PULM. TBC. 3(45.7)    |                    |

Figure 7

The press has of late devoted a great deal of space to the subject of occupational cancer. You may recall an article appearing about a year ago picturing a gasoline service station attendant as being unduly exposed to the hazard with a greater likelihood of developing cancer. A search of the medical literature reveals no quantitative data to support this asser-

tion. We attempted to collect the mortality statistics in our own plant. Figure 7 depicts the result and it is deplorable for although we covered only the last 3 years, in 24 of a total of 68 the cause of death was indeterminable. These unknown cases were primarily among retired personnel but with so large a proportion uninvestigated our study is meaningless. However, the inquiry into our mortality did have a salubrious effect in that we now keep an accurate record. When either an active employee or an annuitant expires we immediately determine the cause of death while all information is fresh and still available. This is best done by contacting the personal physician or the hospital. By following this procedure, I am certain that our records

will be more accurate than either those of the Departments of Health of the various branches of the government or of the insurance companies. To cite a case in point; last year one of our employees returned from a long illness that his doctor reported as caused by a disease of the lungs. This was confirmed by our own x-rays. A few months later this man died quite suddenly while at the wheel of his car. The medical examiner listed his death as one due to coronary thrombosis. It was obvious from the report by a witness at the scene of an oral hemorrhage as well as the patient's history in our medical file that this death should have been listed as due to pulmonary hemorrhage secondary to a cancer of the lung. We did so list it in our records. I fear that all too often the diagnosis of coronary thrombosis is a convenient means by which to close a case. We hope through our studies of the cause of death among our employees to sacrifice convenience for accuracy.

Returning to Figure 7, we note that the average age at the time of death was 56.4 years in this group of 68. A comparable figure for the country as a whole was 55.4 years for 1947. The average length of service was 27.4 years (extremes 1-45 years). The frequency of the causes of death are essentially parallel to those reported for the nation which, in order, were: heart disease, malignancy, intracranial vascular accidents, nephritis, accidents. Our records list not only the age at death and the cause, but also the length of service of the man with the company, what jobs he performed during that service and an abstract of pertinent details from his medical file. As our figures accumulate over the years, we will have a means of determining whether or not the workers in the oil industry live as long as other citizens, have a greater incidence of cancer or other ailments, and be able to answer many other related questions. Certainly at present there is nothing to indicate that our men are not as healthy nor have as long a life expectancy as does any other group.

# COMPARISON LOST TIME NON-OCCUPATIONAL

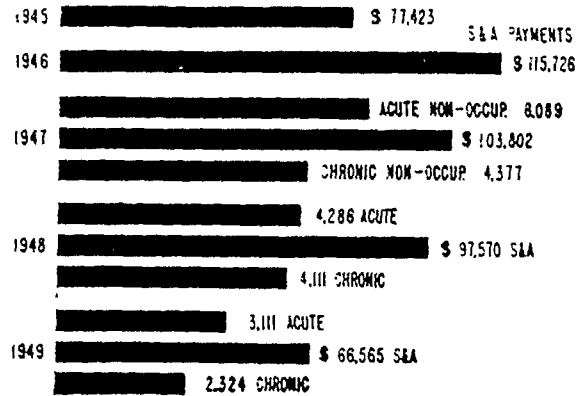


Figure 8

## CODE:

S & A - Sickness payments in dollars.  
 Acute non-occup. - Acute non-occupational illness  
 man-work days lost  
 Chronic non-occup. - Chronic non-occupational illness  
 man-work days lost

To gage the effectiveness of a medical program in an industry is a difficult task since it does not accomodate itself readily to a measuring rod. The importance of industrial hvgiene, the higher morale of the men, their increased efficiency, the better employee-employer relationship, the lessened absenteeism which is acknowledged to accompany a medical program are intangibles difficult to evaluate in numerical terms. However, some means of estimating the results of our efforts are available and are represented in Figure 8. The demonstrated decrease in both lost illness time and in the amount paid out in sickness benefits is striking. The decrease in expenditures must also be considered against the fact that wages and, therefore, payments increased 50% over the period 1945-49. I consider the number of working days lost a far more accurate measure of severity and control of illness since the many variables of the payroll are excluded. The scale of the graph did not permit inclusion of our direct

medical compensation costs which were as follows:

|      |   |         |
|------|---|---------|
| 1945 | - | \$7,081 |
| 1946 | - | 8,099   |
| 1947 | - | 5,696   |
| 1948 | - | 2,880   |
| 1949 | - | 2,228   |

The Medical Department at the East River was started in March of 1946 and unquestionably a great deal of the saving shown in Figure 8 can be attributed to its functions. But, it cannot be too strongly emphasized that the effectiveness of a Medical Department is dependent upon the interest and the cooperation it receives from the Management and the Industrial Relations Department. The efforts of these three units cannot be separated since the Medical Department can only accomplish its mission in concert with the other two branches.

#### CONCLUSION

The charts presented here have been treated but briefly in the text. Each could serve as the subject for an individual paper. However, it was my intent here to demonstrate cause for the keeping of detailed medical records and to suggest purposes which such records can serve. No doubt many other fields of investigation will come to the mind of the reader as he studies these and similar records.

I would particularly stress the quality rather than the quantity of any record system. Far better, fewer records accurately obtained and properly filed than many loosely gathered. The exactitude attained will depend on the thoroughness with which daily and monthly records are maintained by the physician, nurses and the medical secretaries. With precise and complete notations on these basic forms, special studies can be developed at any time. Some of the records consulted in preparing this paper date back to 1946, but because a method of systematic entries had been established, the information sought was available. Most medical studies require observations over

a prolonged period of years before conclusions can be drawn. Each of our physicians may have now or in the future a pet project he would like to explore. His individual group may be too small but combined we have available for study a total of 43,000 carefully supervised personnel, a group large enough to be statistically valid, large enough so that we can present figures, let us say, of cancer incidence in our industry that will command attention. We have available to us an excellent opportunity for research in many branches of medicine which should prove of great value to our employees as well as to the industry and to the medical profession. But such research is only possible if uniform and pains-taking records are kept and analyzed.

Whom are we to convince of the value of an effective, progressive medical program? The Board of Directors, the local management, the foremen, the employees and the public are all interested parties. But above all we must assure ourselves, the medical personnel, that the plan we have mapped out is advancing us towards our goal. We must take stock of our program from time to time, must establish a means of search for error if we are to keep our course proper and true. Without records we shall be talking in vague generalities and hypothetical theories. Only meaningful records and tabulations can serve as standards for comparison and evaluation of our Medical Department efforts.

ROUNDTABLE DISCUSSION OF MEDICAL PROBLEMS  
Industrial Relations and Medical

1. What does light work mean?

- a. Contact Foreman and discuss with him what type of job can be done.
- b. Discussion between Foreman and Industrial Relations man.
- c. Consultation with Foreman, patient and Industrial Relations man.
- d. Every case is an individual case, therefore, must be discussed accordingly.
- e. Follow-up should be made in order to get man back to regular work.
- f. Truck drivers with hypertension or coronary disease should be handled as individual cases.
- g. Discuss with patient that his work will be restricted (light). Foreman talks with patient and tells him if he is to have shorter hours and a restricted job.
- h. When an aging man has been driving a truck, this subject should be brought up individually to decide whether or not a man should be put on light work or should be retired early.

2. The advantage of early return to work

- a. There is great advantage in getting a man back to work after an injury or operation. He is rehabilitated more quickly by returning to work rather than staying home doing nothing.
- b. Again, each case is an individual one and must be handled as such.

3. How Safety and Medical should work together

- a. We do not set down any rigid rules and regulations, instead regulations should be set up to fit into each refinery and location.
- b. The Safety man should know what is going on in order to help stop recurrence of accidents and injuries.
- c. We should be especially careful about having history and records of Safety and Medical brought together in order to get the best picture of the situation. Neither record should be changed.

4. The value of Periodic Health Examinations

a. Dr. C. H. Schulte of Detroit reported the following interesting facts:

"In Detroit complete check-up examinations were done on 2,000 employees of an industry other than Socony-Vacuum (Fire Department) over a three-year period. Seventeen hundred of these employees were found with defects sufficiently significant to be referred to their private physicians for further care. (The most common findings were dental caries, obesities and overweights, hypertension, obesity associated with hypertension, low grade nephritis and prostatitis. Less common findings were glycosurias, two cases of true diabetes, specific cardiovascular disease, coronary sclerosis, fibrillations, arrhythmias induced by exercise including fibrillations, varicose veins, Hemorrhoids, etc.)

"The point we wish to make was that this experience is now becoming common in industry throughout the country, namely, that industry by virtue of the check-up examination program is doing an excellent job of informing the private physician of the physical difficulties of their own private patients."

5. Integration of Company Sick Benefit Plan with State Plans  
Mr. R. E. Kirkpatrick, 26 Broadway

Mr. R. E. Kirkpatrick described the program which has been installed in the State of New Jersey where a State Benefit Law has become effective. In this case, the Company has integrated its Sickness and Disability Plan with the provisions of the new New Jersey law. Similar action is contemplated in those states where laws of this type will be applied.

6. Medical Records

Medical records should be kept more confidential in places where we do not have a Medical Department set up. (For instance, where Company-selected physicians make the examinations). Management should have all information which is necessary to bring the cases up for annuity, but detailed medical reports are not necessary.