

AMA Archives of Industrial Hygiene &
Occupational Medicine, 3(15) p. 73 (1951)

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AN ANALYSIS OF EXISTING TYPES OF SMALL-PLANT HEALTH
SERVICES IN NORTHEASTERN UNITED STATES

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STATEMENT OF THE PROBLEM

IT HAS LONG been known that small industries and their workers have qualitatively the same need for an industrial health program as do large industries and their workers. However, quantitatively the need is obviously much less, and the range of medical problems may be less. Thus the reason for the delay in the development of effective health programs in small plants has been the difficulty of developing such programs with less than full time medical personnel. In the smaller plants their medical needs and their available budgets may not justify full time physicians and nurses.

If large plants spend up to \$25 per year per employee for their industrial health program, they must feel it is worth the expense. If an effective medical program can be developed for a small plant on the same per capita basis as in the large plant, the investment should be equally justifiable. Such programs have been and are being developed, and in many instances where figures are available, the returns on the investment have reached amazingly happy proportions. Indeed, the returns are such that one wonders why managements and workers continue blissfully to lose money every day they continue without a real medical program.

The purpose of this paper is to describe some of the methods, presently in use, of furnishing health services to small industry in Northeastern United States that have proved to be effective and the pitfalls that limit program effectiveness that must be avoided.

FOUR ELEMENTS VITAL TO PROGRAM SUCCESS

Experience with this problem over a period of years has permitted crystallization of certain elements that can be considered vital if the small plant program is to be really effective. In programs that have worked well, these elements have been present. In programs that have not worked well or have not reached maximum effectiveness, some or all of these elements have been missing.

MEDICAL DEPARTMENT INTEREST IN INDUSTRIAL HEALTH

The first important requisite is an interest in industrial health on the part of the medical personnel. This may seem obvious, and yet it has been one of the commonest reasons why many medical programs in small plants have failed to reach

Read before the Third Annual Gulf Coast Conference on Industrial Health, Houston, Texas, Oct. 14, 1950.

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maximum effectiveness. By "interest in industrial health" I mean a real interest in the development of the preventive aspects of a plant health program. The majority of small plant "health programs" have developed more or less adequate handling of occupational injuries and have stopped there. While it is admirable and necessary to have good care of plant injuries, one knows from experience that it is the "preventive" efforts of the program, in terms of illness as well as of accidents, that really pay dividends to the plant and to the workers.

Many small plants today have no medical program. Others have some form of program, which usually falls into one of the two following types.

1. A physician in the neighborhood is chosen, to whose office injured employees may be sent and who may do a simple screening preemployment physical examination. This arrangement may be in conjunction with a scattering of first aid kits in the plant where self-medication is encouraged, or there may be one or more trained first-aiders who spend part of their time giving first aid.
2. In those plants considered to be large enough, there may be a full time nurse with or without the arrangements described in the foregoing paragraph. Such a nurse may be interested in health counseling, health education, follow-up and the like, but all too frequently her job has been conceived as limited to the handling of injuries, and there the program has stalled.

Where the nurse or the physician has been interested in developing a real preventive medical program they have often been successful in persuading the management to permit such development. However, unfortunately, the nurse or the physician or both have frequently centered their interest on trauma. Where the nurse or the doctor has been "preventive-minded," programs have developed in small industries that are quite comparable in scope and effectiveness to those in the larger industries. For these reasons one repeats: *"The first important requisite is a real interest in industrial health on the part of the medical personnel."* A corollary of this is personalities in the medical staff such that the employees will like them and want to go to them with their problems. Those interested in industrial health realize that to be really effective the medical program must be built to meet the specific medical needs of the plant. Indeed experience has shown that a small plant will often buy a medical program when it is offered as the answer to an immediate and pressing problem. From this initial approach the program is then broadened to meet other medical needs that become apparent.

MEDICAL SERVICE MUST COME INTO THE PLANT

The medical service must come into the plant. Except in rare instances, rare indeed, when the services of a local clinic or a doctor's office are used exclusively, with no medical personnel at any time in the plant, no small plant health service has reached maximum effectiveness. My associates and I have had enough experience with many hundreds of industries to assure ourselves that such a positive statement is justified.

When industry brings the right medical personnel into the plant for enough time to meet the medical need, then a really effective medical program is begun. The worker needs to feel that the medical program is his plant medical program;

that the doctor and the nurse are his plant doctor and nurse. Free access to medical personnel is necessary. Indeed, the worker must be encouraged to seek the counsel of plant doctor and nurse, not only for plant injuries but for anything that is bothering him, physical or mental, occupational or social. Then the medical program can really accomplish its purpose of maintaining and improving worker health and worker effectiveness. It is difficult to stress this point adequately. It is every bit as important as the first one—"preventive-minded" personnel. We have seen instances in which the medical personnel involved were very "preventive minded" but were unable to develop a really effective program until they could spend part of their time within the plant walls.

INTEREST AND SUPPORT OF MANAGEMENT NECESSARY

Management interest and support are vitally important to the development of an effective industrial health program. In some instances a physician or a nurse with true missionary zeal has done the necessary proselytizing. In some instances the obvious effectiveness of the work of the physician and the nurse have brought management to a realization of the value of an effective preventive medical program. I know of no instance in which a program has reached maximum effectiveness without real interest and support on the part of management.

Obviously support of labor and the individual employees is necessary, but if the program is provided for their benefit and is staffed by the right caliber of medical personalities, it will inevitably receive their support.

PRIMARY AIM IS BENEFIT TO EMPLOYEES

The primary aim of the medical program must be the good of the employees. If the program is conceived and pursued wholly in management's interest, it will never become fully effective. It is true that the usual reason why management invests in a medical program is the considerable savings that will accrue, but this reaches its maximum only through improving and maintaining the individual effectiveness of the worker, and this in turn comes only from improving and maintaining the health of the individual worker. Thus the benefit to management, while it may be very considerable, must come indirectly from a program that is primarily built for the benefit of the worker. The program developed solely in the interests of management is a short-sighted program that can never yield the greatest return from the medical investment.

To summarize, then, the four essential requirements for the success of a small-plant medical program are these: (1) The medical personnel must be truly interested in developing a real industrial health program; (2) the medical service must come into the plant; (3) the program must have management interest and support, and (4) the primary aim must be the good of the employees.

HOW CAN AN EFFECTIVE PROGRAM BE BUILT?

This leads to the crucial problem in small plants: "How can such personnel be employed and such a program be built in a plant too small to justify a full-time medical staff?" There are many ways. Some of them are effective, and some are not. In those instances we have studied, where attempts at developing a

small-plant medical program have failed, one or more of the four basic requirements listed here have been missing. In those small plant medical programs that have proved to be successful all four have been present.

Some managements and some physicians and nurses have attempted to develop a medical service for a small plant that lacked some or all of these four requirements. In those instances financial outlay, sometimes considerable in size, has not netted the full returns that should have resulted. In the light of experience it was evident that the results they expected would *not* be realized.

For this discussion, then, one may dismiss the many types of medical service in small plants that do not meet the four elements known to be essential to the success of such service. This includes those programs in which no scheduled visits to the plant by medical personnel are planned, services that are aimed solely at trauma, with no interest in preventive medicine, plans that are to be built on inadequate personalities in the medical staff, programs built solely in the interest of management, or those that are without the interest and support of top management. Surprisingly enough, this dismisses a vast number of so-called medical programs in small plants. However, rather than spend time reviewing such attempts, for this discussion it will be more fruitful to review those programs that small plant managements can use with assurance of real effectiveness.

Obviously, the initial and most difficult problem for management is that of finding the right doctor and the right nurse who would be willing to develop such a program for the plant on a part time basis.

FULL TIME INDUSTRIAL PHYSICIAN SHARED BY SMALL INDUSTRIES

There are physicians who are spending full time in industrial medicine and sharing their time among a group of small plants. The classic example of this is the plan in Hartford, Conn., developed by Dr. Albert Gray and Dr. Ronald Buchan. Here Dr. Boland spends a scheduled period each day in each plant and thus has a very satisfying and challenging full time industrial medical practice. This plan has proved eminently satisfactory. The vice president in charge of industrial relations of one of these plants has publicly accredited the medical program with a reduction of lost-time accident frequency and absenteeism of 50 per cent. He is very pleased with its beneficial effect on employee relations. Staffed by the right medical personnel and with the right management intent and support, this has proved to be a highly satisfactory answer to the small plant medical service problem. Unfortunately, it has been difficult to find physicians of the right caliber and personality who are willing to accept such a position. This is difficult to understand. The salary is commensurate with those of other full time positions in industry. Because it covers a number of industries, it avoids the occasional instance in full time work in a single industry in which a change in management or in management philosophy or in plant population has rendered the physician jobless. Unfortunately, also, it is difficult to bring together the thinking and planning of a number of small plant managements at one time to create such a position and such a service. The certain advantage, viz., that this brings to the small plant a physician who is making this special field of industrial medicine his lifetime work, leads one to feel that this will be among the most effective of the answers to the small plant problem. (In the

instance the doctor is not paid on an hourly or per capita basis. The plants agree to a fixed annual salary, and a percentage of that is paid by each plant according to the percentage of his time each uses.)

HALF TIME INDUSTRIAL PHYSICIANS

There are doctors whose interest in the field have led them to spend half or more of their time in in-plant service to several small plants. An eminently successful example of this exists in New York. There Dr. Arnold Tabershaw spends four hours a day visiting several plants. This will work well when, as in this instance, the physician makes scheduled visits to the plant, he is very much interested in a preventive industrial medical program, the intent of the program is proper and management interest and support are good. In this example one small company, totaling 700 employees, with three small locations, found at the end of the year that their total compensation losses were one half what they had been and that they were saving in reduction of absenteeism a sum approximately equal to 6 per cent of their total payroll. Reimbursed on an hourly basis, this brings him a satisfactory income that permits greater leeway in his choice of patients in his private practice.

PART TIME PHYSICIAN FROM THE COMMUNITY

The commonest, and easiest to procure, type of part time doctor service is that of a local physician, practicing in the community, who is willing to come into the plant for certain scheduled hours each week. This has really been successful only in those instances in which management was fortunate enough to find a physician with the right personality and a sincere interest in developing a real employee health program. Such physicians have been able to build for the small plant a program comparable to the full time service in large plants and equally broad and effective, with as ample returns on the cost.

One small plant near Boston with such a service was pleased with \$10,000 returned to them one year through reduced compensation losses, and \$16,000 the next year. Reduction in absenteeism was reflected in approximately 50 per cent reduction in their group insurance losses. This is a plant of about 700 employees. Whenever such a service is recommended, the usual immediate question of management is "Wherever could I find such a physician?" It is difficult indeed. In some communities it is impossible. Not all physicians are of the makeup to fit industrial medicine any more than all physicians are made to be surgeons or research physiologists or hospital administrators. This special field requires men with the right personality, with a real interest in the preventive potentials of an industrial health program and with a desire to learn and apply the fundamentals of industrial medicine.

The most readily available physicians for part time jobs in small industries have been young physicians, just starting in the community, who are willing to accept such work to build up their private practice. In a few instances this has resulted in their becoming among our best industrial physicians. In some instances, however, the private practice has grown at the expense of the industrial program with eventually little or no interest in the in-plant work. In some instances, the desire to build a private practice has led the physician to succumb to the ever-present

temptation to "pirate" nonoccupational cases concerning plant workers from their family physicians, and this has brought discredit on the plant program and on industrial medicine in general.

However, except in highly industrialized areas, part time medical service to industry undoubtedly must be found in the local practitioners. The right physician can almost always be found, but it often requires some searching. Frequently the most competent surgeon or the most popular general practitioner in the area is too busy to spend the time necessary to develop a small plant health program. Finding the right man means seeking the right philosophies, interest and personality.

METHOD OF REIMBURSING THE PHYSICIAN

The best method of reimbursing the physician for such visits to the plant has been found to be the payment of an hourly stipend rather than a fee for service. The amount varies in different localities but should run between \$10 and \$15 an hour. The fee for service has been found too difficult to control and in some instances has gone inordinately out of hand. It does not encourage "prevention," and it continually raises the question of billing whom for what. Some doctors have been loath to set an over-all figure on their service because they have been trained in the fee for service method and do not feel competent to set a price on a salary basis. However, they may be assured that the usual figure of \$10 an hour (sometimes ranging up to \$15) has proved satisfactory to both industry and physician as decent recompense for services rendered.

THE INDUSTRIAL NURSING PROBLEM

A problem somewhat parallel to that of procuring the services of the right physician exists in finding nursing service for small plants. However, many plants that do not require a full time physician do need a full time nurse or nurses. In that event there is entailed merely the work of finding a nurse who wants to work full time in industry, who has the right personality, interest and initiative, and who either has experience in the field or is really interested in learning it.

FULL TIME NURSE IN A SMALL PLANT

Such a nurse can produce amazing results. One plant of 550 persons in New England had for several years run a lost time accident frequency around 45. They were able to procure the full time services of an ideal industrial nurse. During the first year of her service the lost time accident frequency was 3. They had been losing about 300 man-hours a year owing to infections of industrial injuries. In the first year of her office there was no lost time due to infections. During that time accidents were occurring just as they had before, but her ministrations were reducing the significance of the accidents, and her attention was keeping unnecessary lost time at a minimum.

Although size is not at all the sole criterion, it is fairly safe to say that ordinarily the average plant of 100 to 150 does not need the services of a full time nurse. For such a plant a part time nursing service that brings a nurse to the plant for a definitely scheduled period each day can be procured. There are many ways in which this is being done. Its effectiveness, or lack of it, depends almost entirely on the personality, the training, the interest and the initiative of the nurse.

FULL TIME INDUSTRIAL NURSE SHARED BY SMALL INDUSTRIES

A method in use in Boston that has proved to be very satisfactory is the sharing, among two or more plants, of the full time services of a well trained industrial nurse. Fifteen plants in this plan share the services of six nurses. Each nurse divides her time among two or three plants, the smallest of which employs 50 persons. We, at Liberty Mutual Insurance Company, interested the plants in the idea and found and trained the nurses. The plant contracts directly with the nurse to pay her \$2 per inplant hour. Because the work is challenging and pays well, it has attracted nurses of very satisfactory caliber and experience. In almost every instance management has bought more of the nurse's time as the effects of her service became obvious. In every instance in which figures are available there has been a very sizable drop in compensation losses and in some a noticeable effect on absenteeism. I am sure that the magnitude of the results are directly related to the unusually good caliber of the nurses involved, and returns would be less if lesser nurses were furnishing the service.

Among the plants in this plan, one, employing about 160 workers, spends \$1,000 a year for two hours of nursing service a day. The first year they had the nurse their compensation losses were about \$4,700 less than the previous year.

Another plant, employing about 175 persons, uses four hours of nursing time a day at a cost of about \$2,000 per year. During the first year of this service they noted a 52 per cent reduction in lost time accident frequency and an 82 per cent reduction in lost time accident severity, the equivalent of about \$3,500 in compensation dollars.

A plant of about 200 employees uses four hours of such nursing service. That company's treasurer considers the nurse has been responsible for cutting their compensation losses approximately in half and appreciably reducing their absenteeism.

Another plant in this group noted that their cases of lost time due to plant accidents dropped to one fifth of their previous experience after they had procured four hours daily of nurse service for their 175 employees.

None of these seven plants would do without the service now whether or not it affected their compensation experience because they have come to realize the significance of the many less tangible benefits of such a program.

In each instance the physician who has been handling the bulk of the compensation cases furnishes nominal supervision that, in most instances, does not go beyond the signing of standing orders and an occasional telephone conversation regarding a case at hand. This constitutes a significant defect in the medical service, because it limits the service entirely to a nursing level program and does not furnish optimum medical supervision of the nurse's activities. In each instance the nurse is attempting to persuade management of the importance of bringing a physician into the plant and eventually, undoubtedly, this will occur. The program can then be developed further to add those activities that can be accomplished only if a physician pays visits to the plant. In the meantime, however, it is bringing some medical service to a group of plants that are too small even to hire a full time nurse.

A different approach has been used by Dr. Arnold Tabershaw in New York as noted above. The plant contracts with the part time physician from the beginning. They agree to pay him a stipulated sum for one hour of his time a week and five

hours of nursing time, or multiples thereof. Out of this stipend the physician hires and pays a nurse to serve the plant part time. This starts the program at the doctor level from the beginning. It avoids management's frequent reticence in taking the step from nurse to in-plant doctor service. It prevents the occasional instance in which a nurse, well ensconced as the medical authority in a plant, is loath to see a physician come in above her. It removes the difficulties associated with split supervision of the nurse under which she reports partly to the physician and partly to the industrial relations man. In this instance she is in the direct employ of the physician. Although such a system is more difficult to sell to management, its advantages are obvious. That it has been eminently successful is attested by the halving of their compensation losses and the reduction of absenteeism equivalent to about 6 per cent of their total payroll as noted above.

PART TIME INDUSTRIAL NURSING

Part time nursing is being used successfully in a number of plants where management has been able to procure the services of a registered nurse for a few hours each day. These have been private duty nurses or married nurses who wanted the added income the work afforded. In those instances in which the nurse has been of the right personality, caliber and interest it has worked out well. In one such plant the management has been impressed with its effect on absenteeism. One is particularly pleased with the control of compensation losses which it has produced. Another feels the effect on industrial relations is very worth while.

VISITING NURSE ASSOCIATION SERVICE TO SMALL PLANTS

The value of such part time nursing service when given by the Visiting Nurse Association has varied widely. In some areas the V. N. A. has insisted on rotating nurses, which of course prevents the development of the best nurse-employee relationships. In others there appears to be the philosophy that a nurse who visits homes can visit plants with equal success—a lack of understanding that industrial nursing is a very special field. In others, charges have seemed excessive. Where set up properly, the V. N. A. can develop part time service for small industry with some degree of effectiveness. However, the problem of adequate doctor supervision remains, and usually the program will become fixed at a nursing level.

SUMMARY

The problems associated with the provision of an employee health service in small plants are described, with some of the methods presently in use that have proved to be successful. The basic elements that will determine the success or the failure of such a program are outlined. It is true that the vast numbers of small plants constitute a considerable challenge in furnishing really effective medical service. It is not true that we must grope for methods and plans. Effective programs are now in operation, and their value has been proved. There are criteria to determine whether a given program will be really effective or not. Management is showing increased interest.

One looks forward with confidence to wider acceptance and use by small industries of small plant health programs of proved effectiveness.

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