Observations on a Group Medical Service

By

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LATELY OF THE BEDFORD ENGINEERS' MEDICAL SERVICE

IN RECENT YEARS increasing attention has been directed by a number of writers and speakers on occupational health to the need for industrial health services in small units. The present scale of these has been summarised in the Dale Report, Appendix E (1950), where the percentage of factories with definite arrangements other than the statutory examinations of young persons ranges from 0·42 per cent, where there are less than 26 workers, to just under 42 per cent, where there are 250 or more workers. The Report stressed the need for group experiments as a means of deciding the best method of extending these services; and in this connection it is felt that some account of the Bedford Engineers Medical Service may be of interest, since it has been in existence longer than most other groupings of independent firms.

This group scheme was formed in May, 1943, to make available to each of 10 firms the services of a medical officer, employed whole time by the group and giving part of his time to the service of each firm. At this time there were eleven individual factories, as one of the firms had a branch in addition to its main works. The inception of the scheme and organisation were described by Tombleson (1945), when there were three factories with between 51 and 100 workers, three with between 101 and 250, and five with over 250 workers. In 1946 one of the firms, which had only been in Bedford during the war as a result of evacuation from London, decided to leave the area, and therefore left the service. In September, 1948, two more firms joined, and since then no further changes in membership have occurred.* The membership is now eleven firms, two with branch factories, so that there are thirteen separate factories. One has just over 25 workers, three have between 51 and 100, four have between 100 and 250, and five have over 250 workers, the largest having about 2,400. The total number of employees was about 7,000 at first, and is now about 6,375 of which there are 4,670 hourly-paid (4,170 M., 500 F.) and 1,705 weekly-paid and other staff (930 M., 775 F.).

Initiation and Organisation of the Service

The initiation of a group service is a big step for smaller firms to take, since it is often difficult for them to know the needs of others in the same area, to make their own needs in this respect known, or to realise that even the smaller firm may have something to gain from medical supervision. In the case of the Bedford Service, one engineering firm approached the local branch of the Engineering and Allied Employers' National Federation with a request for advice on this matter; as a result, the local members were circulated, and those wishing for a medical service then decided to form a group. Thus this Service came into being. Some of the firms had previously had arrangements with local practitioners to attend on an ad hoc basis, but this had not proved altogether satisfactory, for the pressure of work on local doctors during the war prevented them giving much time to something which was outside their ordinary work. It may be mentioned that several firms not engaged in engineering were also interested in joining the Bedford Service, but the Federation employers were decided that it should be restricted to engineering. This was partly a matter of making it something special for the Federation members, and partly that they did not know how much time an adequate service to each firm would take, and so preferred to restrict the service in numbers and ensure that every firm got a sufficient allowance of the medical officer's time. A Management Committee was formed with a representative of higher management from each firm. They met at the offices of the Employers' Federation, and the secretary of that body acted as secretary of the committee. It was arranged that three members of this Committee and three doctors nominated by the local Health Insurance Committee should act as an interviewing body to make the appointment of the medical officer, and

* Another small firm joined the Bedford service at the beginning of 1956. The total of member firms in the service is now 11, and the total of factories is 14, three firms having two factories each.
this was done early in 1943. The financing of the scheme was arranged in relation to the time to be spent by the doctor at each firm, the respective contributions being computed on an hourly basis. The salary and emoluments of the medical officer formed the whole outlay, except for a small sum for stationery and incidentals, each firm retaining responsibility for paying for its own nursing and first aid arrangements. Time needed at each firm was determined in relation to the number of employees, with a minimum, in the first instances of ½ hour per week, which was later reduced to 1 hour per week for the smaller factories. Not much adjustment of times has otherwise been needed from the original allocations.

The Management Committee was later constituted on a permanent basis, meeting annually to settle any matters which had arisen during the year and to receive the medical officers’ report. Additional meetings are held as required. The medical officer has also been able to use its secretarial facilities for correspondence, etc., although in matters concerning individual firms such facilities are provided at the firm concerned.

**Duties of the Medical Officer**

The medical officer is responsible to the Management Committee. He advises the separate managements on health problems and is responsible for the medical organisation of the surgeries and first aid services. In the larger firms the administration of these is carried out by the personnel departments in consultation with him. He attends each firm for a fixed number of hours each week, these being distributed so that firms are visited on up to four days a week according to their size. He is available to any of the group for emergencies. Further visits are paid from time to time to night shifts where these are worked. The work of the medical officer includes the duties set out in the Factory Departmental Memorandum on Medical Supervision in Factories (1952).

Arrangements for annual or sick leave of the medical officer have been made by ad hoc agreement with local practitioners, and, as the factories fall geographically into four groups, there have been four practitioners concerned, one to each area. This was found to be a better arrangement than having one local practitioner as locum for the whole service. During these periods, only essential visits have been made by the practitioners and they have been paid on a pro rata basis. In addition, the location in the area of a good general hospital has assisted the prompt provision of attention in emergencies. These personal arrangements with the general practitioners and local hospital services have also done much to ensure the smooth working of the scheme.

**Accommodation**

Much time during the first 8 months of the service, until the end of 1943, was devoted to surveying the needs of individual firms, establishing contacts with management staffs and local health services and evolving a practical scheme. As will be appreciated, this requires a more prolonged and detailed study when a number of firms are concerned than when the medical officer has only one firm to consider. Six of the original firms had surgeries or first aid rooms, two had small temporary hutments, and the smallest two had only got a first aid box each. Owing to war conditions, planned improvements had to be postponed but these were gradually proceeded with as their feasibility became evident after the end of the war. All the firms now have first aid rooms, and all but one of those which had no first aid room before have provided a new building for this purpose.

**Staffing of the Service**

As regards staffing, the five larger firms originally had their surgeries manned whole time by either S.R.N., S.E.A.N. or Red Cross nurses, except one with a whole time first-aider; five smaller firms had first-aiders on call; and in the other two, the smallest, the men were untrained. Although individually the personnel were in most cases excellent, an attempt was gradually made to improve the standard of these arrangements. The aim is to have either a S.R.N. or S.E.A.N. in the larger firms, and trained F.A. men in the smaller ones. In the largest firm there is one S.R.N., one S.E.A.N. and one Red Cross nurse for 2,400 employees; the next has one S.E.A.N. and one Red Cross nurse for 1,400 employees; the next has one S.R.N. and one Red Cross nurse for 750 employees; the remaining large firm has one Red Cross nurse for 800 employees. There are two other S.R.N.s, whole time in two of the smaller firms, and the rest are staffed by one or more first-aiders on call. In addition each of the larger firms has a first-aid detachment or party, and in the other firms there are trained first-aiders, the total number being about 70. First aid courses conducted by the medical officer have done much to raise the level of interest in first aid and have increased the cadre of trained people. Where first-aiders from both small and large firms might be needed to act as surgery attendants, the grouping of firms in the scheme made it possible to arrange for the men to obtain more training and experience under the nursing supervision in the larger surgeries.

**Surgery Attendances**

In 1955, the total of recorded attendances in all the works was 54,180, of which 73·4 per cent were for industrial, and 26·6 per cent non-industrial conditions. It may be noted here that with first-aiders only on call, as is the case in the smaller firms, attendances, particularly second attendances and those for non-industrial conditions, are not always recorded and it is likely therefore that the true total figure would be slightly larger than that given. The main industrial conditions for which first attendances were recorded were cuts,
splinters and lacerations, eye cases, sprains and strains, burns and fractures, with a small number of septic cases and skin cases. The non-industrial conditions are predominantly colds and sore throats, headache, toothache, gastrointestinal and abdominal conditions and skin conditions. The great majority of conditions were trivial, but, where necessary, cases are referred to the medical officer in the first place. The necessity of reference also to the worker's own doctor is impressed on the staff, and continued treatment is not undertaken for cases that are more than trivial or that cannot remain at their normal work, without reference to the person's own doctor or to hospital.

Persons are, of course also referred to the various surgeries by their own doctors for treatment where this can appropriately be given at work. Printed forms were devised for reference to the private doctor or to hospital, and these are found—as is the experience of other industrial medical services—to be a great help to close liaison. First aid treatment in the surgeries is of the standard aseptic type, and improvements are introduced as found useful. Where there are no full-time attendants, simpler methods are employed, but again cases must be referred if there is the least doubt or complication. Radiant heat treatment is given by the ordinary surgery staff, and has been found to be of great value in keeping people at work. No trained physiotherapist is employed.

Medical Examinations

The medical officer exercises close general supervision over work in the surgeries. In addition he examines all new employees except those at the two smallest firms. This is done after engagement, at the doctor's next visit, unless there is some special indication either that the employee is likely to be a medical risk or that he or she is being taken on to a pensionable job or one where a medical hazard exists, e.g., work with asbestos. Males are seen by the medical officer directly, while females are seen by the nursing staff, and referred to the doctor should there be any point indicating the desirability for more extensive examination. Examinations of 1,170 adults were carried out by the medical officer in 1955. As regards young persons, the medical officer acts as Appointed Factory Doctor for the examination of young persons, and 157 first examinations and 224 re-examinations were made. It is found that where the medical officer is not full time at a particular factory it is not practicable to examine persons immediately prior to engagement as a routine, since they may come at times when the doctor is elsewhere, but they are engaged subject to medical examination.

There are certain hazards in the factories, which require special supervision. The local gas under-taking involves a risk of epitheliomatous ulceration from pitch and tar, and one case did occur in 1953. Voluntary examinations of all exposed people are carried out annually although the risk in this particular works is not great. One factory has a chromium plating plant for which the medical officer has acted as Appointed Surgeon, carrying out the usual statutory examinations. Two of the firms use asbestos in small quantities. The operators are examined before engagement with an X-ray examination arranged in conjunction with the local chest physician, who sends his report direct to the medical officer. Dermatitis is one of the common hazards in engineering. It was largely due to an outbreak of dermatitis among new labour in 1942 at one of the firms that the desirability of having a medical officer was first raised. This was the firm whose approach to the Employers' Federation resulted in the developing of the Service. This outbreak of dermatitis was controlled on the usual lines and gradually subsided, and since then the number of cases which have received industrial diseases benefit has not been more than about 3 per year for several years. Considerable attention is given to the possibilities of such outbreaks and the management are advised accordingly.

Accidents and Rehabilitation

Accidents are the predominant industrial hazard in engineering, although of course far behind common illnesses as a cause of absence. Their prevention, first aid and rehabilitation were attended to energetically and individually with the subscribing firms. The medical officer has been made a member of existing accident prevention committees in several of the larger firms since his appointment, and has formed new committees in two of the smaller works, where conditions seemed to indicate that more attention to the matter was needed. Arrangements were developed for reducing absence by provision of suitable alternative work where possible in both permanent and temporary cases. Similarly alternative work is arranged for cases convalescing from serious illness including tuberculosis. This has been much facilitated by the collaboration maintained with the hospital and general medical services and placement is done on the advice of the medical officer where necessary, or otherwise by the personnel staff. In 1955 there were 28 fracture cases as a result of accidents at work. A number of these were got back to alternative work as a preliminary to resuming their normal occupation. Similar arrangements were also made for fracture cases not resulting from accidents at work.

Chest Radiology

Periodical visits by a Mass Miniature Radiography Unit have been arranged for the group at intervals since the war. The response has been about 70 per cent of employees, which is a common average, including managerial staff. More recently, after consultation with the chest physician, a scheme for X-ray examination of new entrants was inaugurated. All new entrants were told that a miniature chest X-ray would be arranged...
for them provided that they were willing for this to be done, and provided also that they had not been X-rayed during the preceding year. The scheme was put into effect in April 1955, and the reports on the films are sent confidentially to the medical officer. Since the start of this M.M.R. scheme 750 employees have been engaged up to the end of 1955; not counting those who left before the X-ray could be carried out. One hundred and forty-two employees had been X-rayed recently and an examination was not therefore repeated. Five hundred and nine employees were X-rayed and five refused. Of the 503 X-rayed, 484 had no X-ray abnormalities, 19 were recalled for full-sized films. Out of this number, four were kept under observation as cases of possible active tuberculosis though remaining at work, and one other who would have been kept under observation left his employment and went elsewhere. The total figures for a full year’s working, with the records of the joint X-ray and clinical assessments, are not yet available; but it is felt that this is a tentative and proper advance in the joint approach to problems of this kind.

Research
As regards research, the group collaborated in an investigation by the Department for Research in Industrial Medicine of the Medical Research Council from the London Hospital in 1947 on the alleged Raynaud Phenomenon in grinders of small metal castings (Agate et al., 1946). The amplitude of vibration which might be a material factor in the precipitation of this condition was measured. No further complaints of the condition have been received; the reason for this is not known, but it may be connected with a higher rate of labour turnover in the department with the effect that men who might develop the condition do not stay long enough to do so, or that the condition is not markedly progressive. Incidentally, the shop was entirely reconstructed to increase production while using similar machines, and it then became possible to do more in the way of dust suppression.

Records
Cards for the medical and occupational records of employees were standardised in the group from the start of the service, and the system in use, though not as comprehensive as in some organisations, has proved satisfactory in operation. Records of absenteeism from sickness and accident dependent in part on medical certification are not adequate however, and records are still not sufficiently comparable between all the various firms. Of course in smaller firms, where everyone is known personally, elaborate absence records are undoubtedly of less value to the company than in the larger ones. The only available record which spans the whole period of existence of the Bedford Service is the total of statistically reportable accidents involving an absence from work of three days or more. The accident frequency rate calculated on the total man hours worked in all the firms may be of interest, since all are on varieties of engineering work (Figure 1). The figures for the firm that left the Service in 1946 have not been included.

It will be seen that there is a slow but fairly steady fall in accident frequency rate since 1946, whereas the total of man hours worked per year has risen slightly, though this rise appears greater owing to the two new smaller firms joining the service in 1948. If one excludes the years prior to 1946 as incomplete, the improvement during the 10 years 1946-1955 inclusive may be expressed as a fall in accident frequency rate from 2.4 to 0.87, i.e., 125 per cent, in relation to an increase at the end of the period of 6 per cent in man hours worked.

Not all firms have improved their rates to the same extent, but all have advanced. As has been stated by Schilling (1954), with the institution of an occupational health service a reduction in accidents is probably due in part to improved medical supervision, but this cannot be shown on a statistical basis for the lack of comparable controls. However it is an indication of the influence of improved conditions and the progressive outlook that may occur with such a service.

References