Health in the Army*

A Review by

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The application of the principles of occupational medicine to any group or industry is undoubtedly much simpler and more effective when the group is properly disciplined. *The Report on the Health of the Army*, 1946-48, provides many examples of how from his recruitment to his return to civil life the soldier and his family are carefully guarded against all the ills that can be foreseen.

The army as a career for a doctor is frequently called unattractive because of its lack of clinical opportunities, but this report shows that while there is a great deal of clinical material and great scope for certain clinical specialities the main emphasis of the medical services of the army must be on prevention in its widest sense rather than on salvage. The primary object of the Army Medical Service is to ensure that as many fit men as possible are at the disposal of commanders—and in war “to keep as many men at as many guns for as many days as possible”. And when the army talks of fit men it does not mean that they are just not ill: it means that they have been brought by every means possible to the highest standard of mental and physical well being and that they remain so.

The Man for the Job

In the army, unlike in most other industries, the recruit arrives in large numbers, and at one time was treated *en masse* as a new entry. Things are very different now. The physical and mental requirements of each branch of the service have been assessed and the aptitudes necessary. So the recruit has a battery of tests, and his selection for a particular form of training is decided on sound principles based on experience. Later in this article an example of how the medical services have taken part in this work will be given. Meanwhile, let us look at the system of grading of physical and mental fitness now used—the so called “Pulheems” system, first used by the Canadian Army during the last war. This system is based on a man’s functional capacity rather than on the presence or absence of defects in his make-up and it is very fully described in the Report. But while the system is good, and an improvement on any previous method, there were, at the date of this report, inadequate tests for physical efficiency. More important still no method had been found, and I do not think it has yet been found, to correlate the interaction of physical and mental efficiency and stability on each other and on a man’s functional capacity. No tests can differentiate the man capable of winning a V.C. while suffering from dysentery from the man whose functional capacity sinks to zero with a cold in the head or a

blistered heel. But that is asking for perfection and the broad general knowledge of their employees desired by the army authorities is furnished by the Pulheems system in good measure.

If it finds in them the basic qualities which by past experience are known to be a good foundation, the army training is designed to improve the mental outlook: to develop the will to give of one’s best under the worst possible conditions so that eventually each recruit is convinced that he belongs to the best platoon in the best company of the best battalion in the best army in the world. Emphasis is laid on the mental outlook, for as the spiritual is to the material, so the mental is to the physical in the ratio of 3 to 1; care for the mental and you automatically improve the physical. This is man management in a nutshell whether it be in the army or the mine, the office or the factory. Employers with imagination learn quickly, others never, but the Brigade of Guards or the Royal Marines provide the most striking examples of the success of such methods.

Physical Development Centres

The report gives some account of the work done at these places. They were originally concerned with the building up of the substandard recruit and later also with preserving the trained soldier who was at risk of breaking down. No one who visited these centres could fail to be impressed, not so much with the excellent work done on the physical side but with their great value in building morale. The entry came as unhappy potential failures, they departed happy, alert, looking the world and its difficulties straight in the eye, ready and eager to serve.

Their value was due in the main to the type of men forming their staff. They must be enthusiasts with both feet on the ground, and if some are well known in the field of sport, cricketers, footballers or athletes, so much the better. Such establishments may not be needed now but those concerned with the problem of juvenile delinquents might well find help and inspiration in the study of the methods used in physical development centres.

The Feeding of the Soldier

If an army marches on its stomach then the 1948 army at home must have had about half the range of that of 1939, for the daily ration of meat had been cut from 12 oz. to 3½ oz., of bacon from 2 oz. to ⅝ oz., and cheese from 1 oz. to ½ oz. with some slight gains of ¼ oz. of fat and 1 oz. of sugar. The food habits of the whole nation had changed and the army also conformed. One looks back some 40 years nostalgically to the mess tables of those days, but the soldier was then conditioned to a totally different food intake. But if his ration is less abundant it is made better use of and the catering, cooking, and serving have been improved out of all recognition, and waste cut to a minimum. At the period covered by the Report the soldiers’ ration did not provide sufficient calories for his needs and he was supplying that deficiency by purchases of food from his own pocket. Now one of the attractions held out to the potential soldier has always been that he has everything

* Based on *The Report on the Health of the Army*, 1946-48. The War Office. (Pp. 116; 32 tables.) London: H.M.S.O. 1952.

found and his pay is really only pocket money, but if hunger forces him to supplement his ration to the extent of purchasing about a quarter of his necessary food then it is to be hoped that either this has ceased or that he has been compensated in other ways.

Prevention of Specific Diseases

The test of methods of prevention comes in their application in the face of epidemic risks. This Report shows how the army was completely and absolutely protected from cholera during the disastrous epidemic in Egypt in 1947. Lasting from September to December there were over 20,000 cases and over 10,000 deaths in the civilian population. British troops to the number of many thousands stationed in the area of the epidemic had not one single case. As the army notice about cholera said "You eat or drink cholera", and the army proceeded to see that none of its personnel ate or drank it. How it did that is detailed in the Report; the army notice ended with the words "Don't flap". This terse, idiomatic injunction has a sound physiological basis for fear diminishes the secretion of hydrochloric acid in the stomach and one of the barriers to infection by ingestion is an adequate gastric acidity.

The army in Egypt was not compulsorily inoculated against cholera and mass inoculation was not begun until the epidemic began to decline although special personnel at greater risk were offered inoculation. It is interesting to reveal the reason for this and it is not mentioned in the Report. Inoculation has been the subject of a great deal of propaganda in the British Army, in which inoculation against typhoid fever originated through Wright and Leishman. But the British Army was the only army engaged in the last war in which inoculation was not compulsory. However, the intelligent British soldier has accepted inoculation as a useful method of prevention and indeed some, and especially the families of soldiers, have come to look upon it as almost a complete protection against a disease. Consequently it was felt by the medical authorities in the army in Egypt that if inoculation against cholera were offered *en masse* or made compulsory at the beginning of the outbreak it might lessen the rigid compliance with the other means of prevention such as the boiling of milk and the prohibition of the eating of uncooked fruit or vegetables. That this was well founded is borne out by the fact that some of the personnel of the army asked to be inoculated "so that we needn't boil the milk". Popular opinion at home, both medical and lay, was, however, in favour of inoculation and for policy reasons this was eventually advocated for all.

This experience proves conclusively that a highly disciplined body of men, women, and children can be

protected against a disease where the methods of protection are known and can be enforced even in the face of a raging epidemic. What a difference from the days of cholera camps in India:

"We've got the cholera in camp—it's worse than forty fights. We're dying in the wilderness the same as Israelites. It's before us and be'ind us and we cannot get away, And the doctor's just reported we have ten more today".

The Place of Intelligence and Aptitude Tests

There is one further principle of occupational medicine which the army was applying with some success, the principle of fitting the man to the job. Each occupation requires a certain minimum of intelligence and ability to learn and often the aptitude for certain skills. The services of psychologists and psychiatrists were used to devise means whereby the best use of the human material could be made. (A very full account of the methods employed in all the services will be found in the Report of an Expert Committee on the Work of Psychologists and Psychiatrists in the Services published by H.M. Stationery Office in 1947.) The need for making sure that the best use is made of all recruits is very evident when it is realized that 13% of the army's recruits fell into the lowest intelligence group in terms of ability to learn, S.G.5; the waste of time, effort, and money involved in training unsuitable recruits must at all costs be avoided, especially in war. This was well illustrated in the selection of men for training as parachutists. The failure rate in the training of parachutists was at one time in the war 20%. By means of grading by psychiatrists a very accurate prediction of the failure rate was made from 3% in grade I to 46% in grade V. It was then the duty of the executive to decide which grades should be trained, i.e. what percentage of failures it was economical to accept. Moreover a follow-up showed that whereas 39% in Grades I and II had been promoted to N.C.O. rank only 18% Grades IV and V had been so promoted.

With the increasing complexity of the soldier's equipment and training there must be a continued need for the development and application of suitable selection techniques. When it is realized that about 5% of the army's recruits in the years under review were unable to profit by ordinary training and were only fit for labouring duties it will be realized how important it is to be able to draft these into necessary and suitable jobs. Most of the selection is based on tests devised and proved by scientists and capable of easy application by trained lay selection officers.

The statistical section of the Report is a mine of information on the causes of non-effectiveness, and the outstanding impression one gets is of the great importance of the minor maladies. The Army Medical Services are to be congratulated on producing under very great difficulties a very valuable and interesting study.