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SOCIAL MEDICINE IN THE CURRICULUM*

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Sir Wilson Jameson¹ has said that the term "social medicine" in Great Britain is really a synonym of public health. An abbreviated American definition of public health is organized community efforts for (a) the hygiene of the environment; (b) the control of communicable disease; (c) the organization of services for the early diagnosis and preventive treatment of disease in the individual; (d) the education of the individual in principles of health; and (e) the development of the social machinery which will ensure to every individual in the community a standard of living adequate for the maintenance of physical and mental health. As such, public health becomes a field of social service. The General Medical Council in its evidence in the Goodenough Report² makes the aim of social therapy to be "to seek and to promote measures, other than those usually employed in the practice of remedial medicine, for the protection of the individual and of the community against such forces as interfere with the full development and maintenance of man's mental and physical capacity." This paper attempts to answer two questions; first, Specifically what do we want to train the general practitioner for in social medicine? and, secondly, How do we train him?

Medical education is still concerned primarily with teaching clinical pathological diagnosis and treatment, and even in this field of medicine it is as yet backward in its training of the general practitioner in geriatrics, in psychosomatic medicine, and in rehabilitation. In addition to removing these lags, social medicine requires extension of medical education to fulfil the aim of the General Medical Council, quoted above. The general practitioner must be fully aware of the effect on health of all socio-environmental factors which may lead to personal maladjustment and cause social deficiencies resulting in disability of the individual.

The promotive services are chiefly non-medical, but the physician should be aware of their relation to health and disease. Their availability in the community should be based upon a positive population policy to improve the quality of the country's human capital, on which are based the Government's policies on housing and nutrition. Two other important promotive health services are health education and community centres to provide mental, social, and physical recreation. The promotive services require buttressing by social security to assure adequate standards of living. The general practitioner must also be more adequately trained in the preventive services.

Organization a Prime Essential

Having outlined what social medicine wants to train for, I now turn to the chief purpose of this discussion, that is, to decide how training in social medicine can be undertaken

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adequately by medical schools. For this it is necessary to discuss the *organization* required for satisfactory teaching as well as the *content* of such teaching. The latter has already been the subject of numerous authoritative pronouncements, but the question of organization has received much less attention. It must also be noted that as yet we do not have scientific disciplines covering either the content or the practice of social medicine. The first step should be specific provision in teaching institutions for social physiology, social pathology, and social therapy.

It is now acknowledged without question that the pathologist cannot teach pathology adequately without a laboratory in which each student has his own place and his own microscope; it is similarly accepted that the clinician cannot provide adequate instruction without a minimum of controlled hospital beds per student. What is the corresponding essential for the adequate teaching of social medicine? A community in which the student can go through the routines and apply the techniques of social diagnosis and therapy as he does in clinical diagnosis and therapy, and thereby develop habits of practice useful in his future professional work. It is in such a community, furthermore, that the professors of social medicine can best carry on investigations under controlled conditions.

Until such controlled facilities are provided social medicine cannot hope for full development into a university discipline. Little imagination is required to see that both social physiology and social pathology would develop much more rapidly as scientific disciplines if studied "from the womb to the tomb" in a medical-school-controlled community of 100,000 to 250,000 rather than, as is the case at present, through *ad hoc* facilities. In the absence of a controlled community the techniques of social therapy remain undeveloped; nor can the general practitioner practise social medicine until he has had opportunity as a clerk or intern to habituate himself to proved methods and techniques of social therapy. Only such a controlled community will make it possible to put into effect the important recommendation that the medical schools should take their place as real partners in the National Health Service and discharge their responsibility in the experimentation and demonstration of progress in new forms of medical service.

Health centres in the teaching of social health correspond to hospitals in the teaching of clinical medicine. The Health Act, in recognition of the requirements to train physicians in diagnosis and clinical pathology, has left the control of teaching hospitals in the hands of the university authorities. If physicians are to be trained in the techniques of social medicine university authorities should also control the teaching health centres.

Concept of the Health Centre

The Health Act provides for the establishment of health centres and gives an implication of the services they will undertake. The nature and scope of the health centre was first described as the general practitioner centre in the Interim Report of the Consultative Council on Medical and Allied Services as far back as 1920³; but, despite much lip-service all over the world, there has been practically no move to implement the concept. The draft Interim Report of the British Medical Association's Medical Planning Commission describes a "model health centre." The health centres provided by the Act are discussed both by Scott⁴ and by Stark Murray and McNae.⁵ The *Lancet* carried a series of articles in 1947 on "Health Centres of To-morrow." However, these reports gave inadequate attention to the promotive and rehabilitative services which constitute the major social emphasis of health centres.

A good discussion of the health centre in relation to social medicine comes from South Africa in recent papers presented by Kark and Kark⁶ and by Gale,⁷ who stress, as has the British Medical Association in its *Charter for Health*,⁸ that the family should be the unit of health care rather than the individual. This cannot be overemphasized if "positive health" is under consideration, because "the biological approach to physical and, more particularly, mental health is through the family, which is the natural unit of society." The South African concept of health care through health centres is briefly as follows:

Adequate health care is in effect a continuous programme of family welfare coupled with education regarding health. The health centre service places in the field for each 500 families a team consisting of a physician, a nurse, and two health assistants. An "album" is opened for each family to take stock not only of the physical conditions of each member but also of details of such social, economic, and environmental factors as may be related to health and disease. The team periodically reviews the health progress of each family, assisted by such other categories of medical personnel as circumstances may indicate. It is the responsibility of the team to bring about the utilization of the non-medical community resources indicated previously in the promotive service.

Here and there one notes fragmentary progress towards the extension of the teaching institution into the surrounding community. An example in London is the relationship established by the Institute of Child Care with the child-care activities in the borough of St. Pancras. Generally speaking, paediatrics has been most progressive in community work. Other examples are the Institutes of Child Care in Newcastle and Glasgow. While at present limited to public health, many schools of hygiene throughout the world have during the past two decades concluded agreements with local authorities whereby the school administers its own community. Examples are found as far apart as Toronto and Baltimore on the one hand and Warsaw and Manila on the other. As long ago as 1925 the Department of Public Health of the Peking Union Medical College in China secured administrative control of the health services in the ward of 150,000 population in which the college is situated.

There is therefore ample precedent for and no insuperable obstacle to the extension by medical schools of their controlled facilities to the health care of a designated community of preferably some 100,000 to 200,000 population. There are several ways to effect this. One which works satisfactorily and is implied in Section 10 (a) of the Ministry of Health's recent Circular 118/47 is as follows. The local authority agrees that the medical school may govern the qualifications and the selection of the senior administrative officer for the area to be appointed by the authority concurrently with an academic position. Any difference in the

salary required to procure a competent officer above that paid ordinarily by the local authority would be a responsibility of the medical school. Similarly, the teaching institution would provide such funds which a teaching area might require over and above the average local authority expenditure for a similar population under its administration elsewhere. Thus the final administrative control vests in the local authority, but the medical school has an immediate jurisdiction over the technical aspects of such control. Experience has proved that it is essential for personnel in such a teaching area to be paid on a higher grade than corresponding personnel in non-teaching areas if the technical standards are to prove satisfactory.

Where there is either compulsory or voluntary prepayment the cost to the medical school of such controlled health care facilities is minimal. Here in London, health centres have passed beyond the discussion stage to a definite decision on the number required for the population of such a borough as Hackney. The local authorities and their communities would be the chief beneficiaries in making the medical school their agent for administering such centres, just as local authorities have benefited when they have made their hospitals available for clinical instruction.

The health centre would thus become the basic unit for providing health care in its community and for giving the student an opportunity to learn by self-participation the practice of social medicine along such lines as are outlined under Stage III in the Interim Report of the Royal College of Physicians of London. It is estimated that one physician provided with sufficient ancillary workers can give general practitioner services of health care to approximately 2,000 to 2,500 population and self-participative facilities to one medical student. This means that a health centre serving 20,000 to 25,000 population would provide the essential features of health-care practice necessary for clerkship and internship groups of 8 to 10 students. It is desirable to keep such groups small enough for each student to have ample opportunity for self-participation as well as frequent consultation and seminars with his supervising instructor.

The health centres would also constitute the workshops from which social pathology and physiology would largely carry out their community projects. The content of the former is now generally appreciated. The aim of research in social physiology (biology) would be to determine norms of population-quality, which eventually must constitute the base-line from which social welfare policies of Government would be derived. The material for study, as already is the concept of the Peckham and other groups, would be the family in social action and the effect of environment upon such families. The latter would include the determination of the interaction of socio-economic and other factors of modern society upon mental and physical health. Such studies would require medical personnel with qualifications in social anthropology, who, where necessary, would draw upon and supplement the routine personnel and equipment of the centres. Many studies would of necessity be long-term in nature.

The administration of the medical school health centres should rest with the Department of Social Medicine and Public Health through arrangement with the local authority in the manner described. The professional personnel of the health centres should also, as in the case of the hospital, be members of existing clinical, nursing, and almoner departments, etc. The Department of Social Medicine and Public Health would have two technical interests in the health centres: one corresponding to, and bearing the same relation to, the teaching community as preclinical disciplines do to the teaching clinical departments, and the

other the conventional public health interests, both in teaching and in research. Schools which, in addition to undergraduate, have graduate responsibilities in public health can also utilize the community in question, with functions differentiated into such recognized fields as epidemiology, nutrition, and biostatistics. The Interim Report rightly stresses the importance of medical and psychiatric social workers. The effectiveness of social medicine is as much dependent on these social workers as that of clinical medicine on nurses. It has been suggested in the United States that there should be one medical social worker for every 2,000 and one psychiatric social worker for every 500 out-patients annually. Several universities in the United States have extended the student health service to include the faculty as well as the employees which are under the administration of the Department of Preventive Medicine in association with Departments of Medicine. This provides a particularly interesting group for study and teaching in social medicine.

The fields and scope of social medicine have been so thoroughly discussed^{2, 9-12} that without additional experience little more can be said. Curriculum and instruction are at the beginning of a trial-and-error period. This is confirmed by the recent recommendations of the General Medical Council¹⁴ that for the time being schools "should be left with an ample measure of discretion to determine for themselves how far the instruction of students in the subject should be carried."

Trends in Instruction

Before discussing trends it may be well to summarize the emerging pattern of instruction in the whole field of social medicine and public health in North America. Clinical instruction usually begins in the latter part of the second of the four years of medical education, which do not include the fifth intern year. The pattern in several schools is already taking shape along the lines recommended by the Committee of the Association of American Medical Colleges. Thus at Johns Hopkins biostatistics is given in the first and epidemiology (the nature of disease) in the second year. The third year is given to the economic, social, and environmental factors in disease, while the fourth year is devoted to medical economics and the personal health services.

The more comprehensive trend is the permeation of the regular clinical curriculum with instruction on social and environmental factors. The less comprehensive concerns case-study projects. The latter is rapidly spreading and, as noted, is being undertaken in 39 schools. Its utilization in the following illustrations of clinical permeation makes it unnecessary to describe this trend separately. However, it should be pointed out that curative, preventive, and promotive medicine are brought together and integrated in "case work," and when used by the general practitioner bring him back to his true place in the forefront of the picture which of late years has been outshone by the specialist.

At Harvard special medical social case-teaching conferences are held monthly, attended by all clerks. Each student prepares a fully worked-up case during his clerkship. He acts with the aid of a suggestive outline and in consultation with the social service. At Beth Israel Hospital weekly medical social ward rounds are designed primarily to achieve the best co-ordinated medical care for the patient. Any social component bearing on the patient comes up automatically in discussion of the case. Medical social conferences, held weekly, are attended by students clerking in this hospital. The purpose is to deal with obstructions to good medical care and to help the patient in his planning.

Generally speaking, experience at Harvard has indicated that the students are too confused by curriculum requirements to grasp the import of social medicine until the clerkship year. There is a considerable literature on the Harvard methods of instruction. Attention is particularly called to the paper of Cohen and Derow.¹⁵

Washington University is another illustration of clinical integration. In the second year students are assigned in groups of four to single necropsies, with a separate student responsible respectively for clinical history, gross findings, microscopical findings, and social and environmental factors associated with the illness. The student responsible for the last-mentioned item determines at what point in the patient's life measures might have been introduced to prevent the illness or death, and also what either the patient himself or the community doctor could have done to maintain health. In the third year, along with clinical instruction co-ordinated to disease and organ system, there is included the social approach and reference to community facilities. In the fourth year groups of twelve students undertake a six-weeks clerkship in close co-operation with the clinical departments of medicine, psychiatry, and paediatrics. Students return to a more complete study of patients already examined by them in these departments to determine the social, economic, and environmental factors leading to the illness. These studies are discussed in seminars twice a week. This social point of view is assured by having members of the department participate in grand medical rounds, clinical pathological conferences, and ward visits. In addition the department conducts one of the four-a-month "Saturday noon medical clinics." The paediatric co-operation includes weekly two-and-a-half-hour conferences, with discussion of a case study by each clerk during the clerkship.

It is necessary to bear in mind that medical students are not interested in abstractions, because, as pointed out by Flexner, "medicine is learnt; it is not taught." Their interest is specific. Their education, to be effective, must be continuous and self-participative, and not sporadic and "canned." If the factors of social medicine are as important as claimed by its advocates they should be demonstrated in every case the student sees and not just once in a while in exercises.

Unfortunately this clinical integration trend in the United States, although a great step forward, is of a negative nature. The activities practised are limited chiefly to steps taken after disease occurs. Few relate to health promotion. The latter, generally speaking, cannot be undertaken until there is prepayment to provide comprehensive health care. In this respect there are two significant developments taking place in the United States whereby medical schools are organizing themselves to promote comprehensive health care on a prepayment basis to groups in the community and which will be available for teaching purposes. The inauguration of the Health Insurance Plan of Greater New York has led New York University to establish a group clinic to provide comprehensive medical care under this plan. The other schools in New York City may follow suit. Recently medical care of the indigent in Maryland was transferred from Welfare to the State Health Department and the Baltimore City Health Department. The two medical schools in Baltimore are organizing health centres within their premises to provide health care for the people within their own areas. These, together with the university health services, will provide a considerable population for whom comprehensive health care will be available, also for instructional purposes in health care, which must include all four services.

It is because the Health Act provides for a comprehensive medical service on a prepayment basis that England offers

such a unique opportunity to explore and demonstrate the positive aspects of health care, and it is because promotive health care services can best be administered from health centres that these constitute a central focus for the teaching of social medicine.

REFERENCES

- ¹ Jameson, Sir Wilson. *Canad. J. Publ. Hlth*, 1946, **37**, 173.
- ² Report of the Inter-Departmental Committee on Medical Schools, Ministry of Health, Department of Health for Scotland. London, 1944.
- ³ Consultative Council on Medical and Allied Services: Interim Report on the Future Provision of Medical and Allied Services. London, 1920.
- ⁴ Scott, J. A., *The National Health Service Act*, 1946. Eyre and Spottiswood, London, 1947.
- ⁵ Stark Murray, D., and McNae, L. C. J., *Now for Health*. London, 1946.
- ⁶ Kark, S. L., and Kark, E., *Clin. Proc.*, 1945, **4**, 284. Kark, S. L., unpublished paper, "Social Medicine," presented to South African Medical Congress, Durban, 1946.
- ⁷ Gale, G. W., *S. Afr. med. J.*, 1946, **20**, 326.
- ⁸ British Medical Association: *A Charter for Health*. Allen and Unwin, London, 1946.
- ⁹ Royal College of Physicians, Social and Preventive Medicine Committee, Interim Reports. London, 1943, 1945.
- ¹⁰ Association of American Medical Colleges: Report of the Committee on the Teaching of Preventive Medicine and Public Health, 1945.
- ¹¹ Proceedings of the Conference on Preventive Medicine, School of Public Health, University of Michigan, Ann Arbor, 1946.
- ¹² Report of the Joint Committee of the Association of American Medical Colleges and of the Association of Medical Social Workers on the Teaching of the Social and Environmental Factors in Medicine (in press).
- ¹³ General Medical Council: Recommendations as to the Medical Curriculum, London, April, 1947.
- ¹⁴ Cohen, E., and Derow, H. A., *J. Amer. med. Ass.*, 1941, **117**, 1817.

THE PROBLEM OF CHILBLAINS

WITH A NOTE ON THEIR TREATMENT WITH NICOTINIC ACID

BY

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Chilblains are relatively common in Britain and on the Continent of Europe, but are rare in Canada and the United States of America. The usual sites of the lesions are the dorsal aspects of the proximal phalanges of the hand, on the plantar aspect of the toes, along the inner border and dorsum of the great toe, and in the region of the heel and Achilles tendon. Chilblains may also occur on the ears, but in this site they resemble frost-bite rather than a true pernio-sis; Dubreuilh and Petges (1911) have even reported a case in which a chilblain occurred on the prepuce.

The first sign that a chilblain is developing is a local redness and irritation which comes on in bed or on sitting in front of a fire. The redness becomes more intense and the irritation increases, and if the chilblain is situated on a toe the joint feels stiff and slightly painful. The redness is gradually replaced by a cyanotic tinge and the irritation by pain; desquamation may supervene or bulla formation and ulceration may develop. In mild chilblains very little thickening and infiltration can be felt, but in severe multiple chilblains, such as may occur in the region of the Achilles tendon, there is marked thickening and induration and the skin feels icy cold to the touch. In older people a chronic type of chilblain may develop on the backs of the fingers. It is associated with hyperkeratosis and painful fissuring of the skin. Pain is a more dominant symptom than irritation.

Hallam (1931), in 100 consecutive cases, found 54 in the 0-10 years age group, 29 in the 10-20 years age group, and thereafter only 17 cases; Haxthausen (1930) noticed the more frequent occurrence of chilblains in women; and Wigley (1946) claims that chilblains are frequent between the ages of 5 and 15 years, rare after 20 years, and exceptional after 30 years.

Aetiology

There can be little doubt that cold plays a part in the aetiology of chilblains, although Leduc (1927) suggested that chilblains were first-degree burns due to the incautious exposure of numbed limbs to heat. Becker and Obermayer (1940) believe that the degree of cold is not the sole cause, and attempt to prove this point by stating that natives of India while studying in England do not develop pernio-ses. I questioned three Indian medical students and found that they were all suffering from chilblains. It is certainly correct, however, that there is another factor, as witness the fact that certain individuals may develop chilblains during a thaw when colder weather has left them unscathed.

Mackenna (1927) and Savill (1926) incriminate focal sepsis, such as infected teeth and tonsils, as a predisposing cause. Funk (1899) blames anaemia, but Jausion, Somia, and Meunier (1941) examined the blood in 17 of their 47 cases and found no abnormality apart from a moderate polymorphonuclear leucocytosis in five of them. Glandular dysfunction has its advocates: Embden (1922) and Juster (1927) claim good results with thyroid extracts, but Parkes Weber (1925) and Dore (1928) have not been able to confirm these results. Barber (1926) found the simultaneous administration of thyroid and large doses of iodine of great value; while, according to Hallam (1931), in a series of 1,275 patients 12 were suffering from myxoedema but were not subject to chilblains. On the other hand, 24 of these patients were under treatment for exophthalmic goitre; of these, three had suffered from chilblains only since the onset of the hyperthyroidism. More lately a woman doctor (1947) has suggested a hormonal basis in chilblains, as she has noticed that, although a chronic sufferer, she experiences relief during pregnancy. One of my patients noticed the same freedom from chilblains during her two pregnancies.

Wright (1897) advises calcium, but Percival and Stewart (1927) consider a hypocalcaemia improbable. Hallam (1931) found no benefit from the administration of vitamins A and D and calcium, and noticed no difference in the incidence of chilblains in 100 London school-children subjected to carbon-arc light through the winter as compared with control groups. Dr. J. T. Ingram, of Leeds, in a personal communication, said he had noticed that a certain number of patients who were being treated for lupus developed chilblains for the first time while taking calciferol.

Many writers believe that there is a tuberculous diathesis in chilblain sufferers, but Barber (1926) denies this. The past and present incidence of chilblains in 217 men suffering from tuberculosis and undergoing treatment in a sanatorium was found, on personal interview, to be 19.8%. In cases of pulmonary tuberculosis the incidence was 18.6% and in non-pulmonary 24.4%. Their ages ranged from 4 to 63 years. The slightly higher incidence in the non-pulmonary cases may be due to the fact that their average age was considerably less than the average age of the pulmonary cases and that their movements were more restricted. These figures do not, however, prove the relationship between tuberculosis and chilblains, for Winner and Cooper-Willis (1946) estimated that 50% of their sample of Service women (A.T.S.) will at one time or another have suffered from chilblains by the time they reach the age of 40.

It was not found possible to obtain any correlation between the observed peripheral circulation and the incidence of chilblains. Many patients with red congested hands and lowered bodily metabolism, as evidenced by undue intolerance to low temperatures, were found never to have suffered from chilblains. Neither was any relation discovered between patients who often suffered from "dead fingers"