perceive pain in the foot. These features are nonspecific and resemble the changes seen in diabetes mellitus, frostbite, syringomyelia, tabes dorsalis or even leprosy. In leprosy, typical bone changes occur in only 3 - 5% of cases, the majority of changes being nonspecific and similar to those described above. Leprosy may, however, involve the bones of both hands and feet, and other stigmata of the disease may be present.

The arteriographic findings in the distal vessels appear to rule out vascular insufficiency as a cause of this disease. The numerous abnormal vessels with the features of neovascularization may be related to the chronic infection or to the toxic effect of the alcohol. What part the sensory neuropathy plays in these changes is unknown. A peripheral neuropathy was present in all the patients. Isaacson described the histopathology of the portions of feet excised from 6 of our patients and related the changes to the chronic alcoholism. The features were essentially those of a neuropathy, characterized by gross demyelination and axonal degeneration of the nerves. The distal digital vessels were increased in number and the smaller arteries and arterioles showed thickening of their walls, particularly the intima, with hyperplasia of the smooth muscles of the media and intima. In many instances, the lumina of the blood vessels were narrowed. These changes were also found in sections relatively far away from the inflamed sites.

**CONCLUSION**

Alcoholic ulcero-osteolytic neuropathy occurs predominantly in men, all of whom are relatively heavy drinkers. All the patients in this series presented with trophic ulcers and infection of the forefeet, with varying degrees of digital resorption and clawing of the toes. Bone changes were secondary to infection. A peripheral neuropathy with typical changes in the distal vessels was found in all, and typical angiographic features were present in the distal vessels of the feet.

The aetiology of this disease is related to chronic alcoholism and the term 'alcoholic ulcero-osteolytic neuropathy' accurately describes the pathological findings in this condition.

**REFERENCES**


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**The Role of the Doctor in the Changing Health Service**

**J. D. L. HANSEN**

**SUMMARY**

During the last quarter of a century there has been a gradual change in the doctor's role from that of being the personal provider of medical care to that of the leader of a health care team which is placing increasing emphasis on promotive and preventive health.

For the doctor this has necessitated learning additional skills, particularly in the delegation of specific tasks to nurses and other paramedical personnel, the co-ordination of the activities of the health care team, and in teaching and management. The new Health Act of 1977 will enable doctors to develop along these new lines by making closer liaison between hospital and community-based services possible.

These new trends in medical care will in turn require urgent re-orientation in planning for new buildings and facilities in the health service; especially with a view to keeping expenditure within available resources so that health skills and knowledge can be made available to everyone.


**CHANGES IN THE ROLE OF THE GENERAL PRACTITIONER AND SPECIALIST IN CURATIVE, PRIMARY AND PREVENTIVE MEDICINE**

During the last quarter of a century there has been a subtle but profound change in the role of the medical practitioner. From being predominantly the personal and only provider of medical care, whether in private or full-
time practice, the doctor is now increasingly dependent on ancillary services for diagnosis, treatment and prevention of disease. Thus the general practitioner when treating a child must be assured that immunization against infectious diseases has been carried out by the appropriate authority, a social welfare agency must be informed if there are family problems such as child abuse or malnutrition, and he must call in a specialist where diagnosis or management is beyond his skill. In addition, if children are to reach their full potential, he should be responsible for their developmental surveillance from childhood to adolescence.

The doctor has thus increasingly become part of a team of health personnel and has had to assume responsibility for the proper functioning of that team. This in turn has necessitated a greater understanding of the patient, his family and the community in which he lives. Thus the general practitioner or specialist will take a history and examine a patient, but he will have to use others to assist in diagnosis, e.g. radiologist, laboratory technician, and treatment, e.g. nurse, physiotherapist and social worker. In general, it remains his responsibility to interpret and explain results of investigations and progress of treatment and to support and encourage the patient.

Traditionally the doctor has been the provider of primary care (defined as the patient's first contact for health care) but we now realize that this may also be done by the nurse, social worker or community health (lay) worker depending on the need of the patient and prevailing circumstances. Once the patient has been seen, the complaint may be dealt with by the health worker concerned or referred to other members of the team. The key person in the team should be the primary care general practitioner but may be one of the other professionally qualified members, e.g. psychiatric social worker or health visitor.

We have come to realize increasingly that much illness is emotional and has family or social roots. This has raised the question whether the general practitioner should be trained predominantly in hospital medicine. The present and future need is for a man or woman with much more understanding of social factors and of human behaviour, and with a more general training. It is possible that the knowledge and skills required are too great for an individual and that the general practitioner should be a troika of nurse, doctor and social worker. Leadership need not necessarily always rest with the doctor.

Health has many facets — economic, political and social, and each must be taken into account when any health problem is being considered. Proper care for any ailment — physical or social — demands dedication to the treatment of causes, not merely the amelioration of pain. Unless a doctor pays attention not only to the pathological findings, but also to the reason behind the consultation, the patient is not so likely to persist with treatment. This in turn means that well-planned vocational training for general practice has become a necessity if the doctor is to handle the new demands made on him. Better training in child health, geriatrics, psychiatry and community medicine is important in itself, but also for developing and strengthening the primary care team. All this will necessitate a new orientation to the role of the doctor.

Perhaps a major medical manpower problem of this country today is how to introduce the nurse and professional and non-professional paramedical staff in areas where they are needed. One also has to ensure that the medical profession encourages and does not oppose such a development.

THE NEW ROLE OF THE NURSE
PARAMEDICAL STAFF, TECHNICIAN AND COMMUNITY HEALTH WORKER

In recent years, nurses in both primary and specialist care have become increasingly involved in tasks, procedures and decision-making which have previously been a doctor's responsibility. This trend is the result of a number of factors, including the increasing complexity of treatment and the growth in expertise of the nurse. This development has caused some uncertainty about legal implications and training requirements among both professions and employing authorities. In southern Africa, particularly in rural areas, this particular role of nurses, paramedical personnel and others has for some years been a necessity. In most cases their work is limited and made less effective because they lack training, recognition, support, supervision and direction. Despite this, the nurse is often the only professional person available and has frequently to diagnose and treat. Likewise, the social worker, physiotherapist and other paramedical staff are frequently used in health education and to assist the doctor in providing a continuum of care and surveillance. A further extension for providing health care not yet explored in South Africa is the use of the lay community health worker. The importance of health visitors, ward maids, police, midwives, teachers, barmen, bus conductors, the men and women who run the corner shop, the grandmother, the sanitary and agricultural worker and even the child-minder cannot be underestimated for the promotion of health. These lay individuals preferably chosen by their community can be given a short course of training in various simple techniques and can be most useful in extending health care.

Now that there is a general agreement that nurses can be used for all manner of tasks in their extended roles, training becomes of paramount importance. If this is properly done the potential for improving health care for vast population groups becomes enormous. During 1977 a 2 - 4-month course in paediatric and adult primary health care given to trained nurses at Baragwanath Hospital, Johannesburg, has facilitated the running of community clinics where no doctors are available. The courses cover comprehensive care training, management of problems, recognition of need for referral, and promotive and preventive health care. With a doctor available for consultation these nurses can treat 80% of patients. Approximately 10 - 20% of patients have to be referred to the doctor and 5% to a hospital for admission or investigation. Cross-checks at Baragwanath Hospital (L. A. Wagstaff — personal communication) and in Salisbury have shown that the quality of primary care given by the nurse under these circumstances is as good as that given by the clinic
It is important to define the role and the extended role of a nurse so that there is no confusion. The essence of a nurse's professional role is caring for people. The extension of this role occurs by delegation of special tasks by the doctor or by the health authority. However, the nurse cannot work in isolation. Where delegation occurs the doctor remains responsible for his patient and for overall management and the nurse is responsible for carrying out the delegated tasks competently. Work should only be delegated to nurses (for their legal protection) when: (i) the nurse has been specifically and adequately trained for the new task and agrees to undertake it; (ii) the training has been recognized as satisfactory by the employing authority; (iii) the new task has been recognized by the professions and by the employing authority as suitable for delegation to a nurse; and (iv) the delegating doctor has been assured of the competence of the individual nurse concerned.

Health authorities should review areas where delegation to nurses and other health care workers is desirable. In order to be successful and safe, such delegation should be in the context of a clearly defined policy based on prior local discussion and agreement between those responsible for providing nursing and medical services and this should be made known in writing to all staff who are likely to be involved. In order to safeguard the health authorities for the actions of their staff, the policy should specify: (i) what tasks may be delegated; (ii) what qualifications and training are necessary; and (iii) what safeguards for the patient must accompany the delegation of particular tasks. These same guidelines should apply to other categories of health workers whose roles extend to primary care. An important principle to follow when a doctor delegates his functions is that continuous contact must be maintained between the health worker and the doctor.

The primary health care nurse or worker should be linked to the local or national health care organization. In many countries the success of the primary health care worker has not only been on grounds of cost benefit, but because he or she is accepted and can deal with many of the local problems better than anyone has done before and because he or she is there.

**THE KEY ROLE OF THE DOCTOR IN A COMPREHENSIVE MEDICAL SERVICE**

With a health service that combines preventive and curative services, doctors have to maintain a holistic concept of medicine in addition to their own areas of special interest. Traditionally the doctor, seeing individual patients in private or hospital practice, concentrated on diagnosis and treatment leaving other aspects, e.g. family planning, immunizations, infant feeding and tuberculosis follow-up to local or state authorities. There was, and still is, very little communication between these groups and the patient and community frequently fall in between and are handled inefficiently. With the increasing realization that preventive and curative medicine must be combined, the role of the doctor has changed in the following respects:

1. He must become much more of a planner. In private practice he must establish proper liaison with organized preventive services or alternatively ensure a promotive and preventive aspect to his practice by employing suitable staff (nurses, social workers, physiotherapists). Doctors in full-time service must plan to use all ancillary services available both for treatment and prevention. The new Health Act (Government Gazette, July 1976) makes provision for provincial hospitals to provide personal services to the community and it is anticipated that provincial administrations will now be more receptive to ideas for using hospital-based doctors in the community and vice versa. All this will need careful planning, co-ordination and co-operation between doctors, authorities and local committees.

2. The doctor should, if possible, be the leader of the team of health personnel. In this regard he should organize the duties of the various members, co-ordinate their activities, keep their interest in their work and provide continuing education. His role as a supporter and counsellor in times of crisis becomes very important. He must continually encourage the members of his team and avoid excessive criticism or irritability (unfortunately a common complaint of nurses) if they appear to refer too many trivial complaints for consultation. The doctor must also come to terms with any possible financial threat posed by nurses working in primary health care.

3. Teaching has always been part of a doctor's role. In the context of a primary health care team he must improve his teaching skills to be effective not only for his patients and medical colleagues, but also for nurses and other differently educated members of the health team. Teaching of simple practical measures in curative and preventive medicine must take priority and the doctor should also be interested in the health education of the public. The move towards a teaching role involves a change in the nature of the professional authority to be exercised. Both nurse and social worker need to be given more responsibility and to work as colleagues of doctors rather than as aides. Each team member provides his or her special skills and functions and adds to the resources of the group.

4. With the closer co-operation of the preventive and curative services and the greater involvement of the community, the co-ordinating role of the doctor becomes paramount. He must be able to work with officials from all walks of life and maintain their respect for him by his broader and more understanding knowledge of community problems.

The doctor's role therefore in the changing health service is developing into that of a community leader whose counsel and authority will be much sought after. Far from losing respect because he delegates some of his duties to other members of the health team his status should be enhanced. It is important that the medical profession be given opportunities for equipping its members for the new important roles they will be required to fill as medicine enters a new era. This is a major challenge for our medical school curriculum and the concept that
the major teaching at our medical schools should be done in sophisticated hospitals.

**ARE DOCTORS EQUIPPED FOR MANAGEMENT?**

Traditionally the doctor has been concerned only with the management of his 'personal care' orientated practice. This is frequently done inefficiently unless he employs an accountant. With the health team concept and with the increasing complexities of health care, management has become much more part of a doctor's life and he is at present ill-equipped or educated for this role. The extreme example is that of the medical superintendent of a large teaching hospital who not only has to control a budget in the region of R30 million per year, but has to manage a highly complex staff situation. At the present time such a superintendent can hold the post without any stipulated training. Nor does he receive remuneration commensurate with his responsibilities. Although he deals closely with the university authorities, he is not granted professorial or university status on the same joint basis as the university staff with whom he has to liaise. The civil service commission will have to examine this problem urgently as the health service is failing to train, attract and hold the talented men it needs for the efficient utilization of its large budget of public funds. In my view, it is an important community responsibility to see that the right personnel are employed for these important posts and that training and continuing education in management are insisted on.

In the design of a training course for doctors who will hold positions of authority in health centres, hospitals and administration, emphasis must be placed on hospital and clinic design, changing community needs and realities. In rural and urban areas community development programmes in agriculture and industry have a direct relation to health services and must be monitored and understood by the medical profession so that medical facilities can be adapted to the requirements of the local population. Here it is important that there is some grass-roots or local community decision-making, e.g. through local clinic and hospital committees and voluntary organizations, with regard to the spending of available funds and maximal use of facilities. To date, participation by the community in planning health services and real community involvement in the provision and delivery of health care are uncommon in South Africa. We must decentralize to get the best health services for local needs and this should be possible under Section 16 of the New Act.

**PROVISION OF FACILITIES FOR A COMPREHENSIVE MEDICAL SERVICE**

We need to take a new look at what facilities are needed in a comprehensive medical service. It is an important principle that the quality of medical care must never be judged either from the splendour or the humility of the buildings in which it is undertaken. It depends on people and their training.

To date, hospitals have been the central point of medical services and for a doctor's professional role. With the astounding increase in the cost of construction and maintenance we have to look critically at whether the concept of building a large institution is the best way of spending available money on health. To obtain an answer to this difficult and controversial question we need to pay more attention to the science of health economics and planning to obtain a more equitable and efficient distribution of resources. Morley has drawn attention to the 'disease palace' syndrome that has unwittingly afflicted South Africa and so many other countries. He has shown how the money spent on huge hospitals could often be better spent on multiple clinics. He illustrates how the interest and capital depreciation on buildings can amount to almost 20% of an annual hospital budget.

Hospitals design and construction are difficult and complicated subjects, particularly in South Africa with its varied population and vested interests of all kinds including doctors, government, architects and the building industry.

Certainly in every city or region there must be a sophisticated centre to provide specialized services, e.g. intensive care, intricate surgery, radiotherapy, and the necessary diagnostic aids for investigation of illness. Linked to this central or regional facility there should be a series of day hospitals and clinics situated so that they are accessible to the patient. Primary care contact, for example, should be within a 5-km radius' walking distance or alternatively, transport facilities should be easily available. These peripheral day hospitals or clinics should be pleasant to work in and provide amenities that will attract medical and nursing staff.

A prime need is for efficient communication which entails a good telephone service, or what has proved most useful in Soweto, a two-way radio service. More time is wasted on poor telephonic communication in most hospitals and outlying clinics today than on almost anything else. A good transport and ambulance service for patients is a further basic requirement for efficient use of a doctor's time.

For effective health care, the timing of clinic sessions should take the commitments of working patients and parents into account. This entails proper remuneration and compensatory off-duty time for staff manning clinics out of routine working hours, Sundays and public holidays. One-third of the 24-hour patient load in the large children's casualty department of the Transvaal Memorial Hospital for Children occurs at these times and there is at present no special incentive to attract staff to work during these periods. Day/night outpatient wards with resuscitation, minor operative and intravenous fluid therapy facilities can be most useful to economise on inpatient loads and nursing requirements. The services of parents and relatives can be used in these areas to cater for basic needs and to save nursing time.

Hospital doctors must be prepared to visit district clinics so that the staff of these clinics feel a close bond with the central service. In my view, much more effort should be made to combine maternal, child welfare, family planning and preschool clinic services under one roof. South Africa has lagged far behind other countries in this respect. Computer-linked schemes for immunization
appointments and records can be used as a means of improving the level of immunization in a population. An
other necessary development is the provision of rehabilitation and health education facilities at hospitals and clinics. For this, there must be areas in wards and outpatien departments for lectures and group discussions with patients. Here, patients, families and staff can meet to converse about cancer, chronic disability, family planning of death and how to live more fully in the light of their experience. Nutrition rehabilitation centres where mothers are admitted with their children so they can learn how to care and prevent malnutrition with local foods work well in rural areas. There is no reason why physio- and occupational therapy skills should not be distributed to the peripheral clinics to provide continuing therapy and rehabilitation for patients discharged from hospital.

It is apparent from the foregoing remarks that facilities for the doctor in any health service must be linked to patient and community needs and not be considered in isolation. Only in this way can we avoid the situation where the front entrance of hospitals is reserved for doctors while patients have to go round to the back of the hospital to get attention.

**MORBIDITY AND MORTALITY TRENDS AND THEIR EFFECTS**

In South Africa morbidity and mortality rates vary with the different population groups depending on stage of development, and industrial, urban and rural environments. Much more appreciation of these differences is needed in planning health centres and hospitals. With better preventive care, morbidity and mortality rates will decrease, particularly among the underprivileged and younger sections of the population. At the same time, demands for more sophisticated care and care of the aged increase. Thus for geriatrics the population will expect better physio- and occupational therapy, more ophthalmological care and specialized clinics for hypertension, diabetes mellitus, etc. With better intensive care, more patients survive severe illness and require temporary and chronic care facilities. More paraplegic units will be required as well as homes for the aged. For the elderly and the disabled who are mobile, day care accommodation, with rehabilitative, therapeutic and recreational support is a means of extending hospital, residential or home care. The same applies to mentally and physically disabled children who should be looked after in separate units by specialized staff.

Wilson points out that there are many illnesses that do not yield to medical skills. Most people would say that areas which defy technical solutions are getting smaller. His view is that they are getting larger — that medical technologists today are, as it were, clearing away the undergrowth only to reveal realms in which human need is expressed differently. This is well illustrated in the desirable health surveillance of children. The recent British report of the Commission on Child Health Services has stressed that health surveillance of schoolchildren should be a continuum of that for preschool children. After a statutory medical examination on entry to school, the school nursing service could provide an annual health care interview and monitor growth which is such an excellent index of health. The problem of handicapped children is of real concern and suggestions have been made that local surveys of handicapped children should be made on which to base services to meet local needs. District handicap teams could be established to ensure that affected children are receiving the care they need. Consideration must be given to ensure the well-being and educational needs of children in long-stay hospitals and institutions with particular attention to loss of parental contact. This applies in particular at the moment to large numbers of mentally normal children in TB hospitals who are receiving very inadequate stimulation. Training of staff for residential child care is essential. Relatives and parents can contribute much to the care of patients in hospitals and institutions. Facilities must be made available to them and visiting hours relaxed.

**CONCLUSION**

As doctors we want to see a child- and family-centered service in which skilled health care assistance is readily available and accessible, which is integrated inasmuch as the child is seen as a whole and as a continually developing person, and the adult in the context of his family and the community. We want to see a service which ensures that health skills and knowledge are applied in the care of every person whatever his age, sex, creed or disability, and wherever he lives; we want a service which is increasingly orientated to prevention. The organizational structure should thus be based on comprehensive primary care firmly linked with supporting consultant and hospital care. The medical profession must be unrelenting in pressing for such a service and in this sense the doctor remains the key figure to the future of health services in South Africa. But, this means he must face the challenge of the new roles which the times in which we live demand of him. I am confident that the medical profession is sufficiently flexible to do this if given appropriate encouragement by the authorities.

**REFERENCES**