



THE ROYAL BANK OF CANADA MONTHLY LETTER

VOL. 46, No. 6

HEAD OFFICE: MONTREAL, JUNE 1965

Health Has Many Aspects

HEALTH SERVICES are not bounded in narrow space. They include all the personal work done by members of the various health professions and all clinic, hospital and related facilities.

The Royal Commission on Health Services reported: "the problem facing the Canadian people is not solely the financing of physician services, but the full range of essential services — mental, medical, dental, hospital, pharmaceutical, nursing, prosthetic, home care and optical."

For every physician today there are many other members of the health team. It has been estimated that out of every 100 people in the health field, 89 are not physicians. The contribution of the physician was discussed in the *Monthly Letter* of February, and special attention was given to mental health services in August 1964.

This *Letter* has to do with the thousands of people and hundreds of agencies who contribute in varied activities, not all of them professional, but all ministering to the general purpose of the healing arts: preventing and relieving disease and pain.

A large number of the population still fall far short of the degree of health they might enjoy. This is partly because of the shortage of qualified health workers, and the shortage will become acute if early action is not taken to boost our training resources.

Schools must be helped to increase their output of graduates, universities must be encouraged to increase their student capacity, plans need to be set afoot to finance this expansion and to assist students to complete their training, and research in all aspects of health work must take on a new vigorous role.

Today's research workers are of two types: the pioneer who spends his life seeking the answer to why this or that occurs or doesn't occur, and those hundreds who work chiefly in laboratories. Many more are needed if we are to advance, or even to keep up with the march of health science.

Body mechanics

Among those who work with body structure as their contribution to human well-being are the osteopathic

physicians. Theirs is the art and science of prevention and treatment of disease and injury due to pressure upon the nerves or vessels by displaced vertebrae or other parts of the skeleton, or to imbalance of muscles. They place emphasis on manipulation, but also include medicinal and surgical methods of diagnosis and therapy.

Candidates for the profession must be graduates of approved osteopathic colleges. In the year just ended there were 2,218 applications filed for admission in five osteopathic colleges in the United States.

Physiotherapy, the non-medical treatment of disease, probably originated with the ancient Chinese, who used rubbing as a remedy for many body ills. Today it is a rehabilitative process applied by qualified physical therapists under medical prescription and supervision. They use heat, ultra-violet and infra-red light, electrical currents, mechanical, sound and water exercises and massage to maintain normal function or restore sick and disabled persons to maximum physical fitness.

Approved courses in physiotherapy are offered in seven Canadian universities, and the practice of physiotherapy in Canada is governed by statutes which establish provincial boards to license practitioners.

Occupational therapy is the procedure, guided by a qualified person working under medical supervision, which uses the self-help, manual, creative, recreational, social and educational activities of patients. The occupational therapist seeks to restore and re-educate muscle function of patients in hospitals and other treatment centres, including cerebral palsy clinics, workmen's compensation clinics, tuberculosis sanatoria, homes for the aged, and schools for the handicapped. There were, in 1962, 300 occupational therapists in Canada, a ratio of one to 50,000 population. The desirable ratio would be one to 15,000 population.

Speech therapy deals with re-education of patients who suffer from disorders of comprehension and expression of language. It is the instruction of patients in exercises designed to help them to overcome deficiencies in speech resulting from any type of disability.

Audiological therapists are concerned with methods of testing hearing and educating the person who has a hearing impediment. Both speech and audiological therapists work in hospitals, rehabilitation centres, clinics, special schools for the handicapped or deaf, and in the regular school system.

Podiatry concerns itself with the prevention and treatment of foot disorders by medical, mechanical and surgical means, and by drugs and X-ray.

Its practice is regulated by provincial legislation which requires a candidate to pass a licensing examination set by the Board of Examiners in podiatry after completing a four-year course of study in an accredited college following premedical studies. Canada falls far short of other countries in its number of podiatrists, having only one for every 132,000 population compared with one to every 23,000 in the United States.

Very important in the scheme of health services are three other classes of worker: prosthetists, who measure, manufacture and fit artificial limbs; orthotists, who deal similarly with supportive apparatus and devices; and physical educators, who educate and guide individuals or groups in physical activity directed toward physical, social, emotional and mental growth.

Spinal manipulation

It was a Canadian who was responsible for the founding of the Chiropractic profession. D. D. Palmer, of Port Perry, Ontario, outlined the principles, and gave his first spinal adjustment in 1895. In doing this he was rediscovering principles that had been lost for centuries after being practised by Hippocrates, Galen, and other noted physicians of ancient Greece and Rome, and written in Hindu and Chinese manuscripts, and illustrated on Egyptian tablets.

This is a separate and distinct health service, based on the belief that interference with nerve transmission and expression, through vertebral misalignment, is a frequent cause of disease.

The first chiropractors entered Canada about 1908, and in 1923 the first chiropractic act was passed in Alberta. A dominion-wide organization was founded in 1942, and the Canadian Chiropractic Association was chartered by the Canadian Government in 1953. In 1961 there were 1,175 registered chiropractors in Canada, of whom about ten per cent were women. The charter defines chiropractic as "the philosophy, science and art of locating, correcting and adjusting the interference with nerve transmission and expression in the spinal column and other articulations without the use of drugs or surgery."

The Canadian Memorial Chiropractic College, Toronto, started classes in 1945, providing four years of training. It has the same entrance requirements as a university, and the successful student receives his diploma as Doctor of Chiropractic. Its course, with high academic standards, has graduated more than

seven hundred students since 1949. A National Examining Board has been established with the assistance of the University of Saskatchewan.

Care of the eyes

Visual deficiency is one of our most prevalent health defects. It is most serious among the aged, but failure to recognize and to correct defectiveness early in childhood can adversely affect the course of life. Vision care specialists are adding immeasurably to the happiness, the welfare and the greater usefulness of the millions of people they serve.

There are two principal groups providing professional eye services: ophthalmologists and optometrists. The first are medical doctors who specialize in the diagnosis and treatment of eye disease, test vision, and prescribe eye-glasses and other visual aids; optometrists are practitioners who deal broadly with the detection, diagnosis and correction of faulty vision, and are licensed to carry out examination and treatment without the use of drugs and surgery. A third group, the opticians, are skilled craftsmen who grind lenses to the prescription of ophthalmologists and optometrists.

Optometry cannot be called a new profession, but it has advanced a long way from the thirteenth century idea of providing lenses to the weak-sighted to the twentieth century ideal of giving comfortable and clear vision. There are nearly 1,500 optometrists in Canada.

The educational qualifications of the optometrist have kept pace with advances in his art. He must be a graduate of a four-year course in an accredited institute, and have passed the examination requirements of the provincial board of examiners.

Care of the teeth

The unnecessary tragedy of dental disease is one of Canada's gravest health problems. Almost everyone needs dental care, yet fewer than one-third of the population visits a dentist in any year.

The standards of dentistry in Canada are not exceeded anywhere in the world, but Canada's dental manpower is far from adequate to provide the volume of services needed in spite of the help dentists get from new high-speed equipment, improved techniques, better materials, and greater use of auxiliary personnel. There are no more dentists today than there were in 1915 in proportion to our population. To maintain even this inadequate ratio, Canada will need 9,000 dentists by 1980; to reach the 1961 ratio of dentists to population of the United States, 14,600 dentists would be required. This is why three new dental schools are needed within the next ten years in addition to the two established during 1964.

One means to alleviate the immediate need is the employment of more auxiliary personnel. The dental hygienist is university trained and is licensed to prac-

tise under the supervision of a dentist. Her duties are: to promote dental health through educational activities in schools and institutions; to perform certain preventive cleaning of teeth, to make X-rays, and to carry out educational and preventive services in clinics and in dentists' offices. The dental assistant prepares instruments and materials and assists the dentist in serving his patients. The dental technician is one who makes or repairs artificial devices used by dentists to overcome deficiencies in the human tooth or jaw.

The Royal Commission emphasized the need for organization and recruitment of dentists and dental auxiliaries so as to start at once a dental programme for children. If the plan were in full swing by 1968, then by 1980 all children who had reached 18 would have had regular dental care throughout their formative years.

Preventive measures are of four kinds: those which are the responsibility of the individual, such as cleaning his teeth, eating the right food, and avoiding excessive use of sweet foods, particularly the sticky kinds; those which are the normal responsibility of the family, such as mouth care of very young children, and drill in good oral health practices; those which are the responsibility of the community, such as fluoridation and education; and those which can be obtained through the profession and its auxiliaries, like regular examination and counselling, and early treatment.

Some tooth decay will occur in spite of all efforts to prevent it, but, says the *Dental Health Manual* of the Department of National Health and Welfare, "there is absolutely no need to lose a tooth through decay." Early and regular dental care means that cavities may be detected and the tooth restored at the earliest possible stage.

The same department declares that two-thirds of tooth decay can be prevented by drinking water which contains one part per million of fluoride. The Royal Commission reported: "The efficacy of fluoridated water supplies in the reduction of dental decay has been well established," and recommended: "That every community water system in Canada be immediately equipped to provide, and does provide, the approved level of fluoride."

The place of the nurse

The service of the professional nurse in the health team is a vital one. With the steady evolution of the biological, medical and social sciences, the preparation of nurses has become more exacting and more complex, but it has not become a merely technical profession. Long ago Miss Florence Nightingale defined the professional motive and integrity of nursing as the desire and perpetual effort to do the thing as well as it can be done.

And now, over a hundred years later, Dr. Helen K. Mussallem, Executive Director of the Canadian Nurses' Association explains: "Throughout its long

history, in the minds of its practitioners, nursing has been an auxiliary to medical care only insofar as the nurse performed the treatment prescribed by the physician. The knowledge, skill and understanding required to give total patient care (including the treatment prescribed by the physician) have always been uniquely separate from medical skills. In that sense, nursing is a science and an art in its own right."

The nurse's role is changing in some respects to meet the realities of the current health scene. She generally no longer cares for one patient in the home, but serves rather as a member of a team caring for a large number in a hospital. She has taken on many procedures which were formerly the responsibility of physicians.

The practice of nursing in Canada is controlled in each province by a Provincial Nurses' Association established by provincial legislation, and the ten provincial associations form the Canadian Nurses' Association. There are schools of nursing in universities and hospitals, where students qualify for nursing diplomas and registration.

The present deficiency in numbers of nurses is in some measure compensated by the fact that working under the close supervision of the registered nurses there is a group of auxiliary nursing workers who assist in the care of the patients.

Pharmacy

In Canada, the usual form in which pharmacy is practised is the pharmacist dispensing prescribed drugs in a retail store for a health purpose.

The outstanding progress made in medicine in the present generation would not have been possible had it not been accompanied by major advances in the discovery of new drugs to help physicians combat, and in many cases to prevent, disease and illness.

The practice of pharmacy involves the preparation, compounding and dispensing of these drugs, and the storing and handling of drugs and medical supplies. The fact that medication is largely precompounded in no way lessens the educational requirements of the modern pharmacist. He has a broad scientific background. His four-year course leads to a degree of B.Sc. in Pharmacy.

Between 1948 and 1963, Canadian schools of pharmacy produced an average of 314 graduates per year. It is anticipated that pharmacist requirements in 1971 will be 11,300, while the expected supply will be about 10,700. Women are entering the profession in increasing numbers: from ten per cent of total students in 1950 they have increased to thirty per cent in 1963.

Many auxiliary services

Two features in particular give rise to the present pressure upon the services of professional health workers: people's increasing awareness of the happiness function of high level wellness, and the technological

advances in prevention and treatment of disease. Experts in many special vocations carry part of the load.

In the seventy years since Professor Röntgen discovered what we call the X-ray, it has come into commonplace use by medical and allied sciences for the discovery and treatment of various disorders. Technicians are specially trained to operate the equipment, process films, and prepare them for the physician or surgeon. The Canadian Society of Radiological Technicians is the certifying body in Canada.

The work of medical laboratory technologists encompasses all laboratory procedures that assist in the detection and control of disease. Laboratory findings form an important part of even the most routine examination, and are indispensable where clinical symptoms fail to give necessary information.

A large majority of medical technologists are employed by hospitals, federal and provincial public health laboratories, and the Canadian Red Cross blood transfusion service. Others are in clinics and doctors' offices, university and medical research centres, and pharmaceutical and biological companies. The standard qualification is a certificate of Registered Technologist, issued by the Canadian Society of Laboratory Technologists after examination.

The dietitian fills a vital role in the community, in hospitals, hotels and industrial offices and plants. In the hospital the dietitian plans menus for the whole institution, orders food supplies, and supervises the preparation and serving of meals. She may also teach elementary nutrition and cooking to student nurses.

The professional dietitian is one who has the qualifications necessary for membership in the Canadian Dietetic Association, requiring a university degree in home economics and completion of internship in an approved hospital or three years attested experience.

Nutritionists on the staff of the Department of National Health and Welfare provide technical services, participate in nutrition surveys and studies of food habits, develop recipes for foods with increased nutritional value, prepare educational material, and pursue various research projects.

Medical record librarians must complete a training programme at an approved school and must be registered with the Canadian Association of Medical Record Librarians. Every hospital and clinic maintains a record of every patient, showing the course of his illness and treatment. It is the librarian's responsibility to assemble these records, analyse them, file them, and index them according to classification systems.

Because the practice of medicine involves ever-increasing amounts of paperwork, it is necessary for the physician to have help of a non-medical sort. The medical secretary takes a great deal of routine off his hands, leaving the physician free to use his time in treating patients.

Every hospital has many skilled but non-professional workers. The kitchen staff prepare meals for patients

and staff; the housekeeping staff preserve a high standard of cleanliness and do the mending and laundry; there are maintenance tradesmen, truck and ambulance drivers, operators of mechanical equipment, and clerical staffs, and many others contributing to the smooth functioning of the hospital.

Home care and social work

The Royal Commission expressed the belief that in the interests of patients and of costs there should be established in every urban centre of 10,000 population and over a full scale programme of home care. This would provide observation and care to patients recently discharged from hospital and those who stay at home for the duration of their illness.

The experience of the Victorian Order of Nurses in this field is noteworthy. Visiting nursing began when the V.O.N. was established in 1897, patterned upon the Queen's Institute of District Nursing in England.

The public health nurse is a family health teacher. She visits homes and schools, organizes child health conferences and clinics, gives bedside nursing care on an emergency and demonstration basis, participates with others in the rehabilitation of the sick, injured and handicapped, and is a link between the hospital and the home. Her concern is with people and families rather than with disease or conditions.

Medical social work is the application of the method and philosophy of social work in the field of health and medical care. It is planned and carried out in collaboration with medical, nursing and other personnel.

Among the principal tasks of medical social workers are giving assistance to patients and their families to overcome conditions which prevent them from benefiting fully from medical care; helping patients and their families to remedy conditions contributing to illness; making available community services to the patients and their families; and assisting patients to readjust themselves after medical treatment or because of permanent disability.

Rehabilitation means restoring handicapped persons to the fullest physical, mental, social, vocational and economic usefulness of which they are capable. When the sick person is no longer an invalid and lives again as a useful participating member of society, the job of rehabilitation is fully accomplished.

To this final success have been contributed the knowledge, skill and sympathy of the medical professions and all others on the health team — technicians, dietitians, pharmacists, nurses, dentists, optometrists, and a host of others.

All of these, participating in a big or little way in the healing arts, are co-operating to bring about the end expressed in the terms of reference of the Royal Commission on Health Services. It was instructed to seek methods of ensuring the best possible health care to all Canadians.