

THE TEACHING OF PREVENTIVE MEDICINE IN CANADA

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A Conference on Research, Graduate Education, and Post-Doctoral Training in Departments of Preventive Medicine, organized by the Association of Teachers of Preventive Medicine (of the United States), was held in Saratoga Springs, New York, June 10th–14th, 1963. The conference provided an opportunity for informal discussion and exchange of ideas between the Canadian delegates, who represented all but one of the departments of preventive medicine of Canadian colleges of medicine.

This paper summarizes the points emerging from these discussions dealing with the teaching of preventive medicine to undergraduates.

The descriptions of the individual departmental curricula are at variance in some instances with the “official” descriptions given in the respective university calendars. This point is not too unexpected. Like any other promotional literature, university calendars tend to overemphasize certain point and underplay others. Although discrepancies may be noted between what is reported here and in the university calendars, the accuracy of the information in this report

has been checked with each department head, and represents the status of the departments during the academic year 1962-1963.

DEPARTMENTAL PERSONNEL

Most Canadian departments of preventive medicine have a full-time head but are dependent on part-time lecturers for much of the didactic teaching. Some departments do not have two or even three full-time university faculty members, but these are the exception rather than the rule.

The aims and objectives of each department reflect to a great degree the academic background of its head. Some professors, for example, have attained their present academic positions after several years spent in pediatrics, internal medicine, virology, or in public health administration. With such varied backgrounds, it is to be expected that there will be differences regarding the aims and objectives of the individual departments. Some of these differences are reflected in the following excerpt taken from the Minutes of the Meeting of Teachers of Preventive Medicine held in Moncton, New Brunswick, on June 1st, 1964:

Discussion centered about faculty attitudes towards social medicine and methodology of teaching. The merits and frequent pitfalls of joint sessions with other departments were discussed.

It was generally agreed that the best teaching time for preventive medicine is in the final year, yet in many centers no teaching is done after the penultimate year. It was also agreed that small group teaching was the best method of presenting information and philosophy to the students and of assessing the individual failings of students.

The great emphasis on clinical orientation in preventive medicine was noted and questioned. The great reduction in classical teaching of environmental factors in health was noted and discussed. A definition of social medicine was sought. The term community medicine was advanced as a more accurate term, embracing as it does both the environment and clinical epidemiology and the doctor and patient in the community.

CURRICULA

A review of the teaching programs of departments of preventive medicine illustrates diversity of means but considerable consistency in ends which are sought. No longer can departments of preventive medicine be equated with public health.

Each of the 11 departments of preventive medicine reviewed here would now appear to be interested in the individual patient. This interest extends beyond the bodily confines of the patient, to emphasize the environmental, social, and emotional factors present in the clinical picture. The methods used to acquaint students with this comprehensive viewpoint vary, but the trend is to use the family as the unit of service and analysis. The family is regarded as the basic human social unit, hence, a controllable microcosm that illustrates much of the philosophy behind these teaching programs.

The aims of the didactic lectures given in the departments have changed through the years. Lecturers now cover topics too little emphasized by other clinical departments, yet important to the student's future professional role. These topics include, for example, such aspects of medicine as the epidemiology of a wide variety of health problems, the significance of the changes now taking place in the patterns of medical care and services, the usefulness of the interdisciplinary approach in the comprehensive assessment of the patient or the community, and the utilization of paramedical personnel and community health resources. Topics such as these are replacing infectious disease control, sanitation, and public health administration as subjects of lectures.

A review of the curriculum in each department is outlined in the following sections. No information was obtained about the program given at Laval University.

Dalhousie University

During their first year students are given a 30-hour course on medical statistics. In the second year they take classes in administrative medicine, including occupational health, hospital organization, and vital statistics, and a limited number of field visits are organized.

Third-year medical students have a weekly lecture and seminar

course in clinical preventive medicine. Medical economics and medical care, communicable diseases, chronic diseases, and the epidemiology of lung cancer and heart disease are among the topics discussed. The seminar is not a tutorial, but a discussion based on a specific clinical problem from which the preventive, social, and community health aspects are developed. Specific readings and references are assigned each week, which students discuss in seminar with the department head and resource persons from other departments or community health agencies.

Between their third and fourth years the students make a survey of a community and submit essays dealing with some specific aspect of the health needs of that community. Students are assigned for one week in their fourth year to a general practitioner, with the opportunity to study in depth a family chosen from the Outpatient Department. This study is a dean's course which is carried out in co-operation with the Department of Preventive Medicine.

McGill University

Students in their first year are given a course of 12 lectures in medical statistics. In their second year they have lectures on epidemiology, vital statistics, health education, radiation hazards, and tuberculosis control. The second-year class is divided into three groups in the second trimester, and there is considerable student participation in the seminars.

During the third year students receive 12 one-hour lectures dealing with some of the communicable diseases and the problems of cross-infection. Students also meet in small groups four days a week to learn the techniques of vaccination and immunization procedures, testing for serum sensitivity, and the epidemiology and control of those communicable diseases which can be more adequately dealt with in small groups. In addition, they visit such organizations as the Board of Health and the Well-Baby Clinic, and industrial plants.

Guest lecturers also participate in the McGill program. For example, the Medical Director of the Bell Telephone Company of Canada speaks to students on such topics as occupational health and rehabilitation. Other speakers discuss school health programs,

and the epidemiology of such diseases as diabetes and coronary heart disease, and accidents.

In the final year students receive no formal teaching from the Department of Preventive Medicine.

Queens University

The Department of Preventive Medicine at Queens University has 260 hours of curriculum time. The curriculum is currently undergoing revision.

In the third year the students are introduced to five areas of community medicine—occupational medicine, health department functions, rehabilitation, chronic diseases, and social agencies. The method followed in introducing students to these agencies is to start them with a specific clinical case, following the patient until he is taken care of by the appropriate agency. A program is also under way to introduce senior medical students to the complexities of family practice. During the third year 32 one-hour lectures are given. In the fourth year lectures are devoted to such topics as epidemiology, medical care, maternal and child health, and environmental control.

University of Alberta

In the first year, as part of a lecture course entitled "Orientation to Medical Practice," two or three lectures are given to introduce students to the multiplicity of factors that determine the clinical picture. Two or three patients with the same diagnostic label respond to questions from students. Following this interview an informal discussion takes place to acquaint the students with the idea that in patient management such factors as differences in social, economic, and cultural background have to be taken into account.

Also, as part of the first-year course, a 16-hour lecture series on biostatistics is given.

In the third year 33 hours of lectures are devoted to a mixture of traditional public health topics as well as to such subjects as community health resources, the hospital, and the role of ancillary medical personnel. Also in the third year, a half-year course is devoted to occupational medicine and problems of alcoholism.

During the third year the students participate in the Family Study Program. Twenty-five general practitioners from the City of Edmonton take part in this program and have three students each. Each student, in turn, is allotted a family from the private practice of his practitioner and studies this family in depth, following a protocol given to him at the beginning of the academic year. This program is still in the process of being perfected and it will be several more years before all the snags have been removed. Summer research programs are organized between the third and fourth years.

In the fourth year a half-year lecture course is given on problems of world health, population growth, and panel discussions on the procedures followed in setting up and operating an office.

University of British Columbia

Preclinical sessions are held throughout the first year with representatives from the Departments of Paediatrics, Psychiatry, Sociology, and Preventive Medicine in attendance. These sessions are designed to introduce students to people and their problems, rather than to patients and their diseases. General practitioners participate in this program, and act as tutors. They hold academic appointments in the Department of Preventive Medicine. Emphasis at these sessions is on growth and development, intrafamily and doctor-patient relationships. One-half day per week throughout the academic year is devoted to this program.

In the second year students spend 48 hours studying parasitology, and 32 hours in a child health program. These 32 hours are shared with the Department of Paediatrics and provide students with an opportunity to learn the preventive aspects of many medical problems. Students are also required to undertake a research project during the second year. Many elect to do this work under the supervision of the Department of Preventive Medicine.

In the third year 10 hours of joint meetings with the Department of Paediatrics again provide an opportunity for students to become aware of the preventive aspects of many disease entities.

During the past 10 years, the Department of Preventive Medicine has placed many students in health agencies during the summer

months. This type of job placement provides students with an income and with an opportunity to observe and participate in the day-to-day work of such agencies.

The emphasis in undergraduate learning is placed on the clinical application of preventive medicine. Practical expression of this emphasis is the appointment of an internist with epidemiological training to the staff of the department. This individual acts as consultant to other departments, and also holds an academic post in the Department of Medicine.

The research projects carried out by the department have been concerned in the main with such topics as hospital utilization, the social and academic history of the medical student, problems of chronic disease, and air pollution. These studies are statistical and epidemiological in nature.

University of Manitoba

In the first year an introductory course of approximately 10 lectures and demonstrations is given. This course outlines the aims and scope of preventive medicine, using the various aspects of the student health service as background, e.g., immunization, B.C.G., chest X-rays, blood grouping, routine physical examination, and mental health.

A lecture, demonstration, and field trip course of approximately 30 hours is given in the second year; it deals with biostatistics and environmental hygiene with reference to sanitation, food, milk, water, and waste disposal. In conjunction with the Departments of Bacteriology and Paediatrics, panel discussions are held relating to the diagnosis, treatment, and prevention of specific infectious diseases.

In the third year a lecture and demonstration course of approximately 32 hours is devoted to the duties of a coroner, medical jurisprudence, tuberculosis control, industrial hygiene, and diseases of infectious origin; the last subject is taught in conjunction with the Departments of Medicine, Paediatrics, and Dermatology. In addition, weekly preventive medicine clinics are held in conjunction with the Department of Medicine. Each student is required to

submit one complete case history, with particular reference to its social and preventive aspects.

In the fourth year a lecture and demonstration course of approximately 32 hours is devoted to public health administration, public health nursing, school health services, prevention of infant mortality, prevention of maternal mortality, fetal salvage, cancer control, mass disaster, child health services, medical ethics, preventive psychiatry, and medical economics and business methods. Through the Department of Paediatrics, students visit child health centers operated by the City of Winnipeg Health Department and also observe the City of Winnipeg School Medical Services. Each student is required to submit one complete case history, as in the third year.

The policy of the department is to have faculty members of various departments present the preventive aspects of subjects in their respective fields.

University of Montreal

At the present time no department of preventive medicine exists at the University of Montreal. However, plans are now under way for the establishment of such a department. It will be an integral part of the Medical School and will be located in the University Hospital. The teaching of public health, with an emphasis on clinical preventive medicine and the significance of chronic diseases, is now done on a part-time basis by the local Medical Officer of Health. There is already the suggestion of an interdepartmental approach to the teaching of preventive medicine. The Departments of Obstetrics and Paediatrics are in the lead in this respect, as their teachings are already preventive in approach.

The didactic teaching program, because of the reorganization of the Medical School, is in a state of flux. Twenty hours in the second year and 40 hours in the third year will be allotted for didactic lectures, the contents of which will be aimed at the requirements of the Medical Council of Canada Examinations.

University of Ottawa

The emphasis of the whole course is on the role of the practicing

physician in the prevention of disease throughout its natural history, either by himself or with assistance from medical or ancillary services.

Except for a limited number of didactic lectures, the case method is used entirely. For every exercise each student is briefed in advance, and his findings and recommendations are discussed in conference.

Students in their second, third, and fourth years are given a didactic course of lectures dealing with such topics as epidemiology, sociology, communicable diseases, nutritional diseases, occupational health, and chronic diseases.

In the third and fourth year, respectively, students in small groups of about five are assigned full-time to the department for a period of nine days.

In the third year this time is devoted to a special course on "Environmental Medicine," one of the main features of which is a family study program conducted with the Department of Psychiatry.

In the fourth year a course called "Clinical Preventive Medicine" is given. The students are assigned actual patients for the study of the epidemiology of disease and the application of preventive measures at the stage of disease at which they see the patients. In conjunction with the Department of Medicine each student is required to do a study of the home and environmental factors of a patient for whom he has already done the history, physical examination, etc. The student follows the patient for six weeks after this workup. Other experiences relevant to clinical preventive medicine are also provided.

University of Saskatchewan

The Department of Social and Preventive Medicine's chief objective is to introduce students to the understanding and application of medical knowledge to man in his social state. The curriculum focuses on this theme and the faculty, which represents diverse professional backgrounds in addition to the more traditional specialties, includes a full-time sociologist, a social worker, and a specialist in adult education.

During the first year 24 hours of class-room time are devoted to

a discussion of the history of medicine, the concept of learning, the role of the patient, and actual case presentations. This aspect of the program is carried out in co-operation with the Departments of Psychiatry and Rehabilitation and several community agencies. The students are given several lectures which serve as an introduction for subsequent teaching by the department.

Students in their first year also receive a 24-hour course of lectures in statistics given by the Department of Physiology.

In the second year 46 hours of lectures are devoted to traditional public health, exercises and studies in epidemiology, communicable diseases, immunization procedures, and discussion of the epidemiology of chronic diseases, cancer, and accidents, and of medical sociology.

The third-year project, in which students in groups of four develop under the guidance of two staff tutors a comprehensive report dealing with a specific disease or social problem, is the key to the 46 hours of curriculum time. Specific time is set aside for the projects and at the end of the course the students present their reports to their colleagues and various faculty members. Complementing the projects are seminars, field visits, and panel discussions dealing with the role of the social worker, the public health nurse, and the general practitioner, the hospital as an organization, occupational health, research methodology, and the organization of health services.

Between his third and fourth years each student must spend two weeks in a rural general practice preceptorship scheme which is compulsory. The student lives in the doctor's house or in the local hospital, and submits a report to the department on the community to which he is assigned for this period of time.

In the fourth year no didactic teaching is given and the student's learning experiences are devoted to interdepartmental symposia. Twelve hours of review of the material covered during their undergraduate years are also provided, along with some limited coverage of topics in the field of forensic medicine, death certification and registration, and the Medical Profession Act.

University of Toronto

The University of Toronto is unique in Canada in the size of its classes. On an average there are 150 students per class. The University of Toronto is also unique in the Dominion since no formal instruction is given in statistics. The students in their second year of medical school are introduced to the concept of social medicine by presentation of patients to the whole class, the complexities of the patients' problems being explained by a fourth-year student and a senior clinician. This program is carried out with the Department of Medicine.

As most of the patients have some chronic condition, there is an opportunity to discuss concurrently the epidemiology of, and the community health resources for, such diseases as arthritis, cancer, diabetes, and heart disease. The case presentations and lectures are given on alternate days.

The balance of the lectures consists of a presentation of the preventive aspects of the communicable diseases.

During their third year students are given a 32-hour lecture course on demography, epidemiology, child and maternal health, public health, dentistry, nutrition, medical care, and economic and occupational diseases.

In the fourth year one-quarter of the students (35 to 38) are in the department for 72 hours (three afternoons a week for seven weeks). All field trips in connection with sanitation and food control have been deleted, but 2 two-hour discussion periods, during which colored transparencies are shown, are given on the sanitation of food and water. In place of these visits, discussions on the care of the aged and the chronically ill are carried out, together with visits to some of the community facilities for taking care of these problems. Each student spends an afternoon visiting homes accompanied by a public health nurse. This is followed by a conference at which the multitude of problems is discussed. A discussion on industrial health services is held, followed by a visit to a plant. Practical exercises on smallpox vaccination, tuberculin testing, Schick testing, protective inoculation, are carried out by each student. Venereal disease, tuberculosis control, atmospheric pollution, radia-

tion injuries, and public health administration at the three levels of government are discussed.

University of Western Ontario

Students in their first year have 48 hours of didactic lectures and seminars devoted to vital statistics, epidemiology, biostatistics, and demography.

In their third year 32 lectures are given on communicable diseases, public health administration and practice, and a few lectures on sanitation.

In the fourth year 32 lectures are given on such subjects as occupational health, accidents, early detection of disease, school health, medical care, social agencies, radiation hazards, and narcotics control. In addition, students working in groups of three select a patient from the hospital wards and describe the social problems connected with the patient in a comprehensive manner. Informal discussion follows these presentations. The use of outpatients for this purpose is being tried in the coming year. Pairs of students will visit, in the home, patients assigned to them by the Outpatient Department supervisor and the hospital social worker.

It is hoped that in the proposed new fourth-year curriculum block time will be available to send students to local health units for a period long enough to enable them to understand the role and function of such units. A preceptorship program is also under consideration for a three-week period during the summer. Students will be assigned to a general practitioner working in a small town in close proximity to the university.

SUMMARY

The aims and objectives of the teaching programs of departments of preventive medicine in 11 Canadian medical schools have been reviewed. Attention has been drawn to the changes now taking place in their curricula and learning techniques. Some of the factors leading to these changes have been outlined.