EXPERIMENTAL RESIDENCY PROGRAM IN VETERINARY PUBLIC HEALTH

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THE PRACTICE of veterinary medicine is changing rapidly to adapt to the needs of society, and the specialty of veterinary public health has assisted in meeting those needs. Its progress has been rapid, productive, and imaginative, especially when one realizes that the American Board of Veterinary Public Health was not incorporated until 1950, and not recognized as a specialty board by the American Veterinary Medical Association until 1951.

Today public health veterinarians are working in such diverse fields as radiation safety, air pollution control, heart disease control, and accident prevention, as well as the more traditional functions, such as food hygiene, control of communicable diseases, and research and teaching in the zoonoses and comparative medicine. Veterinarians are even beginning to function in such areas as health services administration.

The Concept

To keep abreast of the rapid advances in veterinary medicine and the needs of society, increased specialization is inevitable. Most professions, including medicine and dentistry, formerly used preceptorial or supervised experience to provide specialized training. Later, more formal training, such as work for advanced degrees, or in residencies, or both, replaced preceptorial training. We believe the time has come to develop residency training programs in veterinary public health.

Such residencies are consistent with the rec-

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ommendations and requirements of the American Board of Veterinary Public Health(1) and the Committee on Professional Education of the American Public Health Association (2). Both organizations require 1 year of postgraduate study leading to a master of public health or equivalent degree. The board also requires a period of 6 years of experience in a recognized civilian or military public health agency. This implies progressively responsible supervised work. The American Public Health Association recommends that, "An adequate period of full-time practical experience in increasingly responsible positions constitutes an essential part of the education and training of the veterinarian . . ."

We believe the most efficient way to implement the association's recommendation for experience is through a formal residency program in veterinary public health. Moreover, we believe these residencies should be sponsored and directed by schools of veterinary medicine or schools of public health which have education as their primary function. Health departments and other agencies primarily engaged in service should be used to provide supplemental field training.

The purpose of this paper is to describe the experimental residency program in veterinary public health at the University of Missouri School of Veterinary Medicine. We believe this will be the first formal residency program of its kind in the United States.

Faculty and Facilities

The residency program is sponsored by the Section of Veterinary Public Health, Department of Veterinary Microbiology, School of Veterinary Medicine, University of Missouri, Columbia. The chief of this section will serve as director of the residency program in veterinary public health.

A residency advisory committee consisting of the faculty members in this section will advise the director on policy relating to the residency. They will assist in selecting and evaluating the residents.

The residency program will be initiated in September 1967 with at least two candidates on a continuing basis. Funds are available to support research projects, field investigations, and travel to professional meetings. As additional money and staff become available, a larger number of residents can be trained.

Currently there are eight faculty members in the section of veterinary public health, including the chief of the section: six public health veterinarians, one public health physician, and one epidemiologist who holds a Ph.D. degree. Of the veterinarians, five are fellows of the American Board of Veterinary Public Health and one is eligible for board certification. The public health physician has a doctor of public health degree and is a diplomate of the American Board of Preventive Medicine. Six members of the section have master of public health or equivalent degrees.

The facilities of the department of veterinarian microbiology and the department of community health and medical practice in the school of medicine are available for use by this program. Excellent epidemiologic and statistical laboratory facilities with modern electronic equipment, adequate classrooms, and conference rooms are available. The veterinary medical, medical, and general libraries have adequate collections of public health journals and reference works.

Official health agencies cooperating with the program include the Missouri Division of Health (the first health department to be officially involved in such a program), the Ecology Field and Training Station of the Public Health Service's Heart Disease Control Program in Columbia, Mo., and the City of Columbia Health Department. The Illinois Department of Public Health and the St. Louis County Health Department have shown interest in participating in this residency training program.

The Curriculum

First year. The first year of the veterinary public health residency program will consist of academic courses leading to the master of science in public health. This well-established degree program has an enrollment of 55 graduate students (1966-67 academic year) representing a variety of professional disciplines. The degree is awarded by the Graduate School of the University of Missouri. The requirements for this degree are 32 hours of graduate courses, essentially those recommended by the American Public Health Association's Committee on Professional Education (3).

An example of the curriculum for the master of science in public health degree includes five required subjects and four electives.

Courses	Credit hour	8
Required		0
Principles of epidemiology		3
Statistical aspects of public health	8	3
Public health administration	2	2
Environmental sanitation	?	3
Research (thesis required)	!	9
Electives	12	2
Epidemiology of zoonoses	{	3
Advanced epidemiology	{	3
Statistical epidemiology	{	3
Special readings in veterinary public he	alth S	3

Electives can be selected from courses offered by the School of Veterinary Medicine, School of Medicine, and Graduate School of the University of Missouri.

Examples of elective courses	Credit	hours
Medical and public health microbiology		4
Medical and veterinary entomology		3
Veterinary public health		3
Principles of community health education	n	2
Medical care organization and manageme	nt	3
Principles of community development		3
Advanced techniques in veterinary microb	iology_	3
Advanced veterinary microbiology		_ 3
Advanced veterinary parasitology		_ 3
Health services organization and managen	aent	3
Advanced veterinary pathology		_ 3
Veterinary oncology		3
Dairy microbiology		_ 3
Farm and plant inspection		_ 2
Microbiology of dairy products		_ 3
Sanitary analysis		_ 4
Stream pollution control		_ 3
Field epidemiology		_ 3
Municipal government		_ 3
Community health in developing societies.		2
Medical care and chronic diseases		_ ·2
Political aspects of health administration.		_ 2

Second year. The first half of the second year of the veterinary public health residency program will consist of research, field investigation, and teaching experience in residence at the University of Missouri. Research will center around the resident's interest, existing programs, and the need for well-balanced training. Field epidemiologic investigations will be stressed, and the resident will be expected to investigate selected epidemics. Residents will gain teaching experience by giving selected lectures on veterinary public health to students of veterinary medicine, on community health to undergraduate students, and on epidemiology of zoonoses to graduate students of public health.

The resident will spend the second 6 months working in a health department, such as one of those mentioned previously. Here he will learn about the service activities of veterinary public health, including food sanitation, health education, administration, and other activities. He will be under the direct supervision of a boardcertified veterinarian holding a faculty appointment in the section of veterinary public health, University of Missouri. The resident and his field supervisor will be visited periodically by the program director in order to discuss problems and correlate theoretical with actual experience.

At the completion of the academic program, whether it occurs at the end of the first year or sometime during the second year, the master of science in public health degree will be awarded. At the completion of the second year, the end of the experimental residency program, the veterinarian will receive a certificate stating that he has completed a 2-year residency in veterinary public health at the University of Missouri.

REFERENCES

- (1) American Board of Veterinary Public Health: Brochure. District of Columbia, 1950.
- (2) American Public Health Association, Committee on Professional Education: Educational qualifications of public health veterinarians. Amer J Public Health 49: 113-118, January 1959.
- (3) Smillie, W. G.: Training of public health personnel in the United States and Canada. Amer J Public Health 49: 455-462, April 1959.

Center for Environmental Quality Management

A center for environmental quality management, supported by funds from the Department of Health, Education, and Welfare, has been established at Cornell University, Ithaca, N.Y.

The new center is intended to provide an academic setting to further interdisciplinary graduate training and research in environmental health. By providing central facilities for this research, the center will encourage graduate studies related to environmental health, sponsor interdisciplinary seminars and research projects, support training and research in relevant academic disciplines, and integrate and disseminate research results obtained by participants in projects fostered by the center.

Studies in the center will be concerned with the environment itself and with the analysis and management necessary to make the most effective public policy decisions to control the environment through the biological, physical, and social sciences and engineering.

PUBLIC HEALTH SERVICE STUDY OF DRIVER BEHAVIOR

Human aspects of automobile accident causation are under study at a new federally staffed research laboratory at Providence, R.I. Operated under the injury control program of the Public Health Service's newly organized National Center for Urban and Industrial Health, the laboratory is equipped with two individually designed electronic driving simulators for studying driving behavior patterns. Research results should aid in establishing higher standards for driver licensing and in improving driving behavior.

A simulator is an automobile equipped with certain complex electronic and mechanical devices which create the illusion of actual highway driving. It has the usual automobile controls so that the driver can react, just as he would in his own car, to widely varying driving situations as they are presented to him. The person at the controls will have his driving behavior responses recorded and later subjected to professional analysis.



The simulators permit research which would never be feasible on the highway. Drivers of both sexes will be studied in an effort to determine the driver failures and weaknesses that cause accidents. Teenaged, middle-aged, and elderly drivers will be observed, in a normally alert condition or in varying degrees of impairment. Drivers will be tested while under the influence of alcohol or drugs (including amphetamines), while under emotional stress, and while sleepy or fatigued. Physically and mentally handicapped drivers also will be studied.

One of the simulators, built under contract with the Radio Corp. of America, uses an automobile along with an optical reduction system. Moving belts carry miniature cars, which the driver sees through his windshield as part of a real highway—complete with center line, roadside scenery, sound effects, and typical traffic (see the photographs above and on facing page).

The TV simulator, built by Goodyear Aero-





space Corp. with additional equipment from Philco Corp., creates the driving illusion through a televised highway terrain model. The image is received on a television monitor, and the picture is projected onto a large screen in front of "the operator's automobile" (photographs to the right and below). By means of the simulators, driver behavior in many situations can be monitored. Many different drivers can be observed in an identical situation.

Other devices will be used to measure and record the physiological characteristics of drivers in various situations. Electrodes will be attached to their bodies to measure heartbeat; skin temperatures will be taken.

The data collected should be helpful to the 50 States in establishing driver licensing standards required under the National Highway Safety Act of 1966.



