

APPENDIX A

Veterinary Preventive Medicine Expenditures by Funding Sources

	FY09	FY08	FY07	FY06	FY05	FY04	FY03
Department	\$2,530,619	\$1,970,537	\$2,087,646	\$1,947,030	\$2,177,037	\$1,690,726	\$1,586,310
OSURF	\$762,177	\$1,037,501	\$1,232,338	\$1,740,706	\$1,018,734	\$1,207,374	\$965,726
Extension	\$524,351	\$355,642	\$460,146	\$621,277	\$625,540	\$651,622	\$614,456
OSURF - Extension	\$12,841	\$2,061	\$7,731	\$14,936	\$918	\$16,224	\$0
OARDC	\$2,800,873	\$2,596,654	\$2,133,260	\$1,453,515	\$1,962,218	\$1,546,893	\$2,116,310
OARDC OSURF	\$2,327,431	\$1,981,655	\$2,012,726	\$2,267,132	\$1,991,603	\$1,692,807	\$1,386,428
Marysville	\$1,272,865	\$1,302,451	\$1,131,765	\$941,075	\$801,846	\$707,872	\$654,577
Marysville Facilities				\$6,921	\$148,245	\$56,353	\$1,215,535
ODRC	\$836,107	\$842,130	\$725,576	\$588,913	\$492,446	\$499,409	\$371,146
ULAR*	\$288,624	\$253,544	\$162,594	\$110,688	\$65,400	\$62,642	\$56,236
Total Expenditures:	\$11,355,888	\$10,342,175	\$9,953,782	\$9,692,193	\$9,283,987	\$8,131,922	\$8,966,724
ULAR*							

APPENDIX B

Veterinary Preventive Medicine Sources of Funding

		FY 2009 Expenditures by Department by Fund Group					
		General Funds	Earnings	Current Gifts & Endowment Earnings	Contracts & Other	Sponsored Programs	Total
Veterinary Preventive Medicine		\$2,286,709	\$20,959	\$109,977	\$113,030	\$762,177	\$3,292,852
Marysville			\$1,272,614	\$9,617	\$251		\$1,282,482
ODRC					\$835,761		\$835,761
Subtotal Veterinary Preventive Medicine		\$2,286,709	\$1,293,573	\$119,594	\$949,042	\$762,177	\$5,411,095
Veterinary Biosciences		\$7,897,239	\$252,819	\$191,860	\$243,257	\$7,428,589	\$16,013,764
Veterinary Clinical Sciences		\$9,237,886	\$96,002	\$706,407	\$597,775	\$2,367,735	\$13,005,805
Veterinary Hospital		\$1,174,788	\$15,224,498	\$132,925	\$601,729		\$17,133,940
Veterinary Administration		\$4,851,051	\$332,715	\$2,939,250	\$4,420,694	\$209,527	\$12,753,237
Total College of Veterinary Medicine		\$25,447,673	\$17,199,607	\$4,090,036	\$6,812,497	\$10,768,028	\$64,317,841

APPENDIX C

Faculty FTE

OSU Extension – Veterinary Medicine		
Name	OSU Extension FTE	Department of VPM FTE
Jeffrey T. LeJeune	0.30	
Ziv Raviv	0.65	0.35
Yehia Mohamed Saif	0.20	
William J. A. Saville	0.366	0.643
Gustavo M. Schuenemann	0.65	0.35
William P. Shulaw	0.65	0.35

VPM Food Animal Services		
Name	VPMFAS FTE	Department of VPM FTE
Luke Heider	1.0	0
Fernando Silveira	1.0	0

ULAR		
Name	ULAR FTE	Department of VPM FTE
Valerie Bergdall	0.90	0.10
Carrie Freed	1.0	
Judy Hickman-Davis	1.0	
Stephanie Lewis	1.0	

Food Animal Health Research Program		
Name	FAHRP FTE	Department of VPM FTE
David Benfield		
Renukaradhya Gourapura	1.0	
Daral Jackwood	0.85	0.15
Chang Won Lee	1.0	
Jeffrey T. LeJeune	1.0	
Gireesh Rajashekara	1.0	
Linda Saif	1.0	
Yehia Mohamed Saif	1.0	

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OSU Large Animal Services		
Name	Clinic FTE	Department of VPM FTE
Klibs N. A. Galvao	1.0	
Eric Gordon	1.0	
Margaret A. Masterson	1.0	
Lowell T. Midla	1.0	
Donald Sanders	0.8	
Frank H. Welker	1.0	

Other		
Name	Department of VPM FTE	Other
Gary L. Bowman	0.4	
Candace C. Croney	1.0	
Fred J. DeGraves	1.0	
Pam Dennis	0.5	
Rebecca Garabed	1.0	
Wondwossen Gebreyes	1.0	
Armando Hoet	0.7	0.3 (CPH)
William L. Ingalls	0.0	
Linda Lord	1.0	
Paivi Rajala-Schultz	1.0	
Jean Sander		1.0 (CVM Admin)
Richard D. Slemmons	1.0	
Thomas E. Wittum	1.0	

APPENDIX D

Table 1. Veterinary Preventive Medicine faculty teaching responsibilities in the Ohio State University College of Veterinary Medicine core professional DVM curriculum

Year	Qtr	VMC Number	Course Name	Team Leader	Qtr hour	Contact hours
VME I	Fall	510	Veterinary Epidemiology	Garabed	4	40
		614.01	Basic Life Skills	Harcha	1	10
	Winter	560	Ethics and Jurisprudence	Lord	2	20
VME II	Fall	614.02	Legal Responsibilities	Harcha	1	10
		646	Population Medicine	Bowman	2	20
	Winter	614.03	Personal Financial Success	Harcha	1	10
	Spring	608	Non-mammalian Medicine	Lewis	2	20
		610	Clinical Veterinary Parasitology	Monahan	2	20
		614.04	Communications	Harcha	1	10
VME III	Fall	616	LA Techniques - Parasitology	Monahan	1	30
		614.05	Career Development	Harcha	1	10
	Winter	611	Veterinary Preventive Medicine	Rajala-Schultz	4	25
		616	LA Techniques – Parasitology	Monahan	1	30
		614.06	Practice Success	Harcha	1	10
			Plenary week	Saville		
VME IV	-	700.08	Veterinary Preventive Medicine	Silveria	5	-
		700.10	LA Field Services	Welker	3	-

APPENDIX E

Table 2. Veterinary Preventive Medicine faculty teaching responsibilities in the Ohio State University College of Veterinary Medicine elective professional DVM curriculum

Year	Qtr	VPM Number	Course Name	Team Leader	Qtr hour	Contact hours
	Spring	693	Contemp Issues in Animal Welfare	Lord	2	
	Spring	696	International Topics in VPH	Hoet	2	
	Spring	750	Vet Practice and Hospital Mgt	Harcha	3	
	Spring	770	Zoo and Wildlife Medicine I	Myers	1	
	Fall	771	Zoo and Wildlife Medicine II	Myers	2	
	Fall	796.02	Prev Communicable Diseases	Slemons	3	
	Spring	796.06	Dairy Herd Health	Schueneman n	3	
	Fall	796.08	Swine Diseases	Bowman	3	
	Fall/Sp	796.12	Literature Production Medicine	Rajala- Schultz	1	
	Winter	796.13	Applied Dairy Nutrition	Eastridge	3	
	Winter	796.16	Dairy Production Medicine	Midla	1	
	Winter	796.17	Bovine Reproduction Lab	Masterson	2	
	Fall/Wi	796.18	Bovine Theriogenology	Schueneman n	2	

APPENDIX F

COURSE LIST FOR GRADUATE PROGRAM IN VETERINARY PREVENTIVE MEDICINE LISTED BY DEPARTMENT AND DISCIPLINE

1. Veterinary Preventive Medicine Courses

VPM 693	Individual Studies (A,W,Sp,Su)	1-6
credits		
VPM 700	Molecular Epidemiology (Sp)	3
credits		
VPM 721	Epidemiology of zoonoses and diseases common to animals and humans (A)	4
credits		
VPM 722	Food-borne diseases, food animal production systems and food safety (W)	4
credits		
VPM 723	Biosecurity, environmental health and other veterinary public health topics (Sp)	4
credits		
VPM 780	Veterinary Epidemiology (W)	3
credits		
VPM 796.02	Prevention of Communicable Diseases (A)	3
credits		
VPM 796.06	Disease Control in Dairy Cattle (A)	4
credits		
VPM 796.12	Literature of Production Medicine (A,W)	1 credit
VPM 796.13	Applied Dairy Nutrition (W)	3
credits		
VPM 796.18	Bovine Theriogenology (A)	2
credits		
VPM 810	Principles of Epidemiology (W)	2
credits		
VPM 850.02	Seminar in VPM-Student Presentation (A,Sp)	1 credit

2. Public Health Courses

PHBIO 701	Design and Analysis of Studies in the Health Sciences I (A)	4
credits		
PHBIO 702	Design and Analysis of Studies in the Health Sciences II (W)	4
credits		
PHBIO 703	A Problem Orientated Approach to Biostatistics (Sp)	4
credits		
PHBIO 794	Group Studies in Biometrics	2-5

credits		
EPI 711	Epidemiology I (W)	4
credits		
EPI 712	Epidemiology II (Sp)	4
credits		
EPI 713	Epidemiology in Environmental Health (A)	4
credits		
EPI 815	Infectious Disease Epidemiology (Sp)	4
		credits

3. Microbiology Courses

M 509	Basic and Practical Microbiology (A,W,Sp,Su)	5	
credits			
M 520	General Microbiology I (A,Sp)	6	
credits			
M 521	General Microbiology II (W)	6	
credits			
M 522	Immunobiology (W)	5 credits	
M 524.01	Mechanisms of Microbial Disease (Sp)	4	
credits			
M H610	Bioinformatics & Molecular Microbiology (Sp)	5	
		credits	
M 632	Cellular Aspects of the Immune Response (A)	6	
credits			
M 634	Water Microbiology (W)	5	
credits			
M 636	Food Microbiology (A, Sp)		5 credits
M 647	Eukaryotic Pathogens (A)		3 credits
M 649	Introductory Virology (W)		5 credits
M 655	Animal Cell Culture Techniques (A)	5	
credits			
M 661	General Physiology (W)	5	
		credits	
M 664	Medical Ecology (A)	3	
		credits	
M 665	Environmental Microbiology (Sp)	3	
credits			
M 680	Advanced Microbial Genetics (Sp)	3	
credits			
M 701	Cellular and Molecular Immunology (A)	5	
credits			
M 720	Microbial Biodiversity (A)		4 credits
M 723	Molecular Immunology (W)		3 credits
M 724	Molecular Biology of Bacterial Pathogens (Sp)	5	
		credits	

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M 799	Colloquim (A,W,Sp)	1 credit	
M 832	Advanced Cellular Immunology (W)	3	
credits			
VB 715	Applied Veterinary Medical Virology (Sp)	3	
credits			

4. Agriculture Courses

AE 885	Research Methods (A,W,Su)	3	
credits			
AE 886	Research Design (W,Sp,Su)		3 credits
AE 887	Data Analysis and Interpretation (A,Sp)	3	
		credits	
AS 616	Poultry Physiology (Sp)		5 credits
AS 617	Physiology of Lactation (A)		3 credits
AS 650	Advanced Meat Technology (Sp)	3	
credits			
AS 655	Laboratory Analysis of Meat Products (W)	5	
credits			
AS 656	Eggs and Poultry Products Technology(A)	5	
credits			
AS 660	Quality Control Interpretation (Sp)	3	
credits			
AS 710	Advanced Reproductive Physiology (Sp)	4	
credits			
AS 730	Animal Physiology and Nutrition (A,W,Sp)	3	
credits			
AS 740	Principles of Toxicology I (W)	3	
credits			
AS 741	Principles of Toxicology II (Sp)	5	
credits			
AS 850	Food and International Agriculture (Su)	5	
		credits	
AS 810.02	Endocrinology of Reproduction (W)	5	
credits			
AS 810.03	Immunology and Immunogenetics (Sp)	5	
credits			
AS 830	Advanced Studies in Nutrition	3	
credits			
ECON 711	Production and Consumption (A)	4	
		credits	
ECON 712	Finance and Risk Management (W)	4	
		credits	
ECON 713	Public Policies and Market Regulations (Sp)	4	
		credits	
FS 611	Cheese and Fermented Foods (W)	4	

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FS 636	Food Mircobiology (A,Sp)	credits 5
FS 736	Advanced Food Mircobiology	credits 3
FS 761	Advanced Nutritional Utilization I (W)	credits 5
FS 762	Advanced Nutritional Utilization II (Sp)	5
VB 716	Diseases of Poultry and Game Birds (A,W)	3
5. Biostatistics/Statistics		
AE 887	Analysis and Interpretation of Data (A,Sp)	3
AE 888	Instrumentation and Procedures for Data Collection (W,Sp)	3
MG 650	Analysis and Interpretation of Biological Data (A,W,Sp)	5
S 528	Data Analysis I (A,W,Su)	3
S 529	Data Analysis II (W,Sp)	3
S 530	Data Analysis III (Sp)	3

APPENDIX G

Veterinary Preventive Medicine Graduate student awards and honors in 2003-2008 (presentation awards at scientific meetings, travel awards etc)

2003

Cheyney Meadows, Association for Veterinary Epidemiology and Preventive Medicine Award for best graduate student oral presentation in Epidemiology and Animal Health Economics section, 84th Annual Conference on Research Workers on Animal Diseases

Norma Ramirez, graduate student presentation award in Gastroenteric Diseases section, 84th Annual Conference on Research Workers on Animal Diseases

2004

Audrey Torres, Association for Veterinary Epidemiology and Preventive Medicine Award for best graduate student poster presentation in Epidemiology and Animal Health Economics section, 85th Annual Conference on Research Workers on Animal Diseases

2005

Audrey Torres, Association for Veterinary Epidemiology and Preventive Medicine Award for graduate student oral presentation in Epidemiology and Animal Health Economics section, 86th Annual Conference on Research Workers on Animal Diseases

Linda Lord, Association for Veterinary Epidemiology and Preventive Medicine Award for graduate student oral presentation in Epidemiology and Animal Health Economics section, 86th Annual Conference of Research Workers in Animal Diseases, 2005.

2006

Veronica Costantini, Association for Veterinary Epidemiology and Preventive Medicine Award for the best graduate student presentation in the Food and Environmental Safety Section at 87th Annual Conference of Research Workers in Animal Diseases.

Audrey Torres, graduate student travel award for the best scientific paper to attend the XI conference of International Society of Veterinary Epidemiology and Economics awarded by the Association of Veterinary Epidemiology and Public Health

Audrey Torres, best graduate student presentation in the Epidemiology and Applied Research category, OSU College of Veterinary Medicine Research Day

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Hadi Yassine, Benjamin S. Pomeroy Award for Student Achievement in Avian Disease Research, The North Central Avian Disease Conference

Hadi Yassine, 1st place award for best poster, American Association of Avian Pathologists

2007

Melanie Abley, best graduate student presentation in Epidemiology and Applied Research section, OSU College of Veterinary Medicine Research Day.

Heidi Abrecht, Association for Veterinary Epidemiology and Preventive Medicine Award for best graduate student poster presentation in Epidemiology and Animal Health Economics section, 88th Annual Conference of Research Workers in Animal Diseases

Billy Walker, Association for Veterinary Epidemiology and Preventive Medicine Award for graduate student oral presentation in Epidemiology and Animal Health Economics Section, 88th Annual Conference of Research Workers in Animal Diseases

Smitha Pillai, The American College of Veterinary Microbiologists Award for graduate student oral presentation, 88th Annual Conference of Research Workers in Animal Diseases, Chicago, IL

Leyi Wang, Best Poster Presentation Award – 144th AVMA Annual Convention

Hadi Yassine, the Richard B. Rimler Memorial Paper Scholarship, “Recognizing Excellence in Poultry Disease Research by a Graduate Student”. AAAP-AVMA Convention.

2008

Dharanesh Gangaiah, best graduate student poster presentation in Gastroenteric diseases section, 89th Annual Conference of Research Workers in Animal Diseases

Junbae Jee, best graduate student poster presentation in Immunology section, 89th Annual Conference of Research Workers in Animal Diseases

Alex Rodriguez, Association for Veterinary Epidemiology and Preventive Medicine Award for the best graduate student presentation in the Food and Environmental Safety Section, 89th Annual Conference of Research Workers in Animal Diseases

Jennifer Walker, Association for Veterinary Epidemiology and Preventive Medicine Award for the best graduate student presentation in Epidemiology and Animal Health Economics Section, 89th Annual Conference of Research Workers in Animal Diseases.

Jacqueline Nolting, Benjamin S. Pomeroy Award for Student Achievement in Avian Disease Research, The North Central Avian Disease Conference

Luke Heider, best graduate student presentation in the Epidemiology and Applied Research category, OSU College of Veterinary Medicine Research Day.

Pamela Fry, poster presentation award, OSU College of Veterinary Medicine Research Day

Narry Tiao, First-place poster presentation at the Combined Ohio Public Health Association Conference

Graduate student fellowships (competitive OSU or other fellowships)

Trang van Nguyen, Thorne Fellowship, 2003-2004

Pamela Dennis, International Rhino Foundation fellowship for graduate studies, 2000-2004

Taradon Luantonkum, The Royal Thai Government Scholarship 2000-2005

Linda Lord, The Kenneth A. Scott Charitable, A KeyBank Trust, Research Fellowship in Animal Shelter Medicine and Management, 2004-2007

Prapas Patchanee, The Fulbright Scholarship 2004, The Royal Thai Government Scholarship 2005-2008

Smitha Pillai, Public Health Preparedness for Infectious Diseases Fellowship 2008-2009.

Hadi Yassine, Thorne Fellowship 2008-2009

Hillary Voris, American Kennel Club grant for project “Characterization of advertisements for puppies sold online: Determinants of price and a comparison with parent club breeders”, 2008

Narry Tiao, Emerging Infectious Diseases Fellowship through the Association of Public Health Laboratories, 2008

Jennifer Mathews, University Fellowship, The Ohio State University, 2008

Hope Valentine, Morris Animal Health Foundation scholarship for graduate studies 2008-2009

Megan Drobotij, Health Professional Scholarship Program through the Air Force- 2008

Jeniffer Millette, Rainier Summer Research Fellowship.

APPENDIX H

Veterinary Public Health Administration. The VPH program is administered by a steering committee. This steering committee that oversees the MPH-VPH program includes 6 faculty members from the Department of Veterinary Preventive Medicine, CVM; the head of the division of Epidemiology from the CPH; and the Assistant Dean for students affairs of the CPH (as a non voting member in the committee). The current members are:

- ◆ Armando E. Hoet, DVM, PhD, Dipl. ACVPM, Assistant Professor, Coordinator
- ◆ Wondwossen A. Gebreyes, DVM, PhD, Dipl. ACVPM, Associate Professor
- ◆ Fred J. DeGraves, DVM, PhD, Assistant Professor
- ◆ Thomas E. Wittum, MSci, PhD, Professor
- ◆ William J.A. Saville, DVM, PhD, Dipl. ACVIM, Professor
- ◆ Paivi J. Rajala-Schultz, DVM, PhD, Dipl. ACVPM, Associate Professor
- ◆ David M. Murray, Ph.D. Professor and Chair, Division of Epidemiology

VPH Curriculum description

The MPH degree is the standard professional/practical public health degree recognized throughout the world. The students in this program must complete five major requirements to be able to obtain an MPH-VPH degree.

Core Courses in Public Health. During the MPH-VPH program, it is required that all students take at least one course in each of the five core areas of public health as required for accreditation by the Council on Education for Public Health: biostatistics, environmental health sciences, epidemiology, health behavior and health promotion, and health services management and policy. This allows the students to gain flexibility and familiarity with all public health disciplines. The core courses offered within the CPH are presented in appendix A.

Core Courses in Veterinary Public Health. Required courses for the veterinary public health specialization include zoonotic diseases (VPM 721), food-borne diseases and food safety (VPM 722), and biosecurity, environmental health and other VPH issues (VPM 723) (See appendix A). Through these courses the students are expected to gain knowledge on the epidemiology and ecology of zoonotic diseases in pet animal, livestock, and human populations. Students also learn about animal population systems, including the roles of companion and food-producing animals in society, food production and distribution systems, biosecurity programs, preparedness and emergency response.

This series of new VPH graduate/professional level courses was developed and implemented specifically for the VPH specialization. **We closely followed the recommendations of the American College of Veterinary Preventive Medicine (ACVPM) in their proposed model veterinary public health/preventive medicine curriculum.** Based on these ACVPM recommendations, the department of Veterinary Preventive Medicine developed these three core courses, consisting of four quarter-hours

of credit each, which are presented as a continuum of VPH topics. These courses are designed to complement and extend, but not duplicate, the content of the basic public health core courses required for the MPH degree. A brief description of this unique series of courses is summarized below.

VPM 721 - Epidemiology of Zoonoses and Diseases Common to Animals and Humans (4 credit hours – Autumn quarter). This core course is focused on describing the basic epidemiology of common and important Zoonotic diseases. Instruction emphasizes the use of such knowledge in the establishment of preventive and control strategies specific for these zoonoses. The importance of safeguarding animal and public health from such diseases is highlighted throughout the course. The course is divided into two major sections. The aim of the first section is to develop an understanding of important concepts of animal infectious diseases. The second section is a comprehensive review of the most common zoonotic diseases that can be transmitted to humans. Special topics about VPH and small animal populations, wildlife, and laboratory animals are also covered.

VPM 722 - Food Borne Diseases, Food Animal Production Systems, and Food Safety (4 credit hours – Winter quarter). This core course is divided in three sequenced blocks of information. In the first section, the students receive an overview of the food chain for the most common products of animal origin, with special emphasis on pre-harvest safety issues. In the following section, the most common food-borne diseases are described in detail, with special emphasis in their epidemiology and transmission. Finally, during the last block of information, food safety issues such as hazard analysis, good management practices, meat inspection, and food safety training are discussed.

VPM 723 - Biosecurity, Environmental Health, and other Veterinary Public Health Topics (4 credit hours – Spring quarter). This core course is divided in three blocks of information. In the first section, the students receive an overview on biosecurity issues with special emphasis on bioterrorism, preparedness, risk assessment, and management of zoonotic and food-borne outbreaks. In the following segment, the most common environmental health issues related to human and animal interactions are described in detail, focusing on water and air quality, waste management and carcass disposal, among others. The last section covers additional topics in Veterinary Public Health, such as animal bites, non-infectious consequences of animal and human interactions, animals as models for diseases and sentinels, and drug and pharmaceutical residues.

In addition to the students seeking the specialization in veterinary public health, these VPH core courses have proven popular with MPH students in other specializations at the CPH, especially epidemiology and environmental health sciences. Some PhD students in the CPH have also enrolled in these courses, suggesting that there is substantial interest in VPH among a much broader audience of students.

Elective Courses. In addition to the core courses in Public Health and the veterinary specialization, MPH-VPH students must work with their faculty advisors to identify a set of elective courses specific to their specific area of interest. The student will have to complete 12 credit hours of elective courses, which are offered by the CVM, the CPH, or the College of

Food, Agriculture, and Environmental Sciences, but other colleges may also offer suitable courses. These elective courses allow the students to customize their degree to the area in the VPH field that they are planning to focus their practice. Currently, several informal tracks with recommended electives are possible inside the MPH-VPH program (see appendix B). All elective courses must be approved by the MPH-VPH steering committee as relevant to the program; however, the diverse nature of veterinary public health offers students broad opportunities to focus their academic programs by choosing elective courses from the offerings of multiple colleges and departments across The Ohio State University.

Practice Placement. As a practice-oriented degree, the MPH also requires that all students fulfill a field practicum designed to gain practical experience in the VPH field. The practice placement requires that the student gain at least 120 hours' experience in a public health practice setting. The purpose of the practice placement is to give students a significant opportunity to apply knowledge and skills from the classroom toward the achievement of specific public health goals in a field setting. This is accomplished under the direct supervision of a public-health practitioner, serving as preceptor, and of a sponsoring faculty member, usually the student's faculty advisor. We have worked closely with local, state, and federal public health agencies to identify practice-placement opportunities for our students. Agencies that have sponsored or received our students for this experience are summarized in appendix C.

Culminating Project. The final requirement for the MPH-VPH degree is the completion of a public-health culminating experience, which is intended to allow the student to explore a VPH topic in depth to generate a useful and meaningful final product addressing an important public-health issue. The culminating experience can take the form of an applied research project, an integrative writing project, a grant proposal, or a traditional thesis. Examples of MPH-VPH students' culminating experiences are presented in appendix D.

The MPH-VPH program is designed to be completed in 1.5–2 years, depending on individual courses, practice placement, and the culminating experience project chosen by the student. Nevertheless, several very proactive students have been able to graduate in only one year.

Invited Lecturers, Practice Placement Mentors and Field Advisors.

Invited Lecturers. In addition to the faculty in the VPM department and the College of Veterinary Medicine, professionals working in federal, state or local health and agricultural agencies are frequently invited as lecturers for each one of the three VPH core courses. This allows for a close collaboration with such agencies and presents the opportunity to our students to interact with these professionals. Examples of such lecturers are: Dr. Kathy Smith, Ohio Public Health State Veterinarian; Dr Leah Dorman Assistant State Veterinarian, ODA; Andrew J. Montoney, Ohio Wildlife Services State Director; Dr Richard Gary, Ohio State Entomologist; among others.

Practice Placement Mentors and Culminating Project Advisors. Multiple professionals have worked with our students as mentors during their field experience or the execution of their culminating projects. All these professionals belong to the different agencies listed in Appendix C. They are initially selected by the student and his/her academic advisor, to be later approved by the VPH committee. To date over 50 professionals, nationally and

internationally, have been practice placement mentors for more than 70 MPH-VPH students, with all of them expressing satisfaction with our students in their final evaluations. Also 5 other professionals from multiple organizations have worked as culminating project advisors for an equal number of MPH-VPH students.

Profile or Competencies.

The primary mechanism for assuring that all the students in the MPH-VPH program have a broad understanding of public health core knowledge is through the required public health core courses (see appendix A). For each specialization within the MPH program the CPH has established clear competencies that guide the development of our students. The CPH together with the VPH committee identified and instituted specific veterinary public health competences that are expected to be fulfilled by every graduate student in the MPH-VPH program. These competencies are summarized in table 1.

Table 1. Core Competencies in Veterinary Public Health in addition to core Public Health

Core Competencies in Veterinary Public Health				
		VPM 721	VPM 722	VPM 723
1	Understand important concepts and definitions on infectious diseases common to animals and humans.	✓	✓	✓
2	Recognize relevant zoonotic diseases, especially those diseases that are reportable, bioterrorist threats, or have a major impact on public health.	✓	✓	✓
3	Understand the epidemiology, as well as specific preventive and control measures for the most common zoonotic diseases.	✓		
4	Understand how food animal productions systems work (from a pre-harvest safety point of view) to produce food from animal origin.		✓	
5	Recognize the most common zoonotic foodborne diseases with respect to their etiology, epidemiology, as well as specific preventive and control measures		✓	
6	Comprehend basic information about food safety issues, such as HACCP, SOP's, GMP's, inspection procedures, among others.		✓	
7	Understand principles of biosecurity and the most important biological and bioterrorist threats and risks, how to assess them and how to prepare to respond to a likely outbreak of a foreign animal and/or zoonotic disease in the US.			✓
8	Identify the procedures and protocols to face an outbreak of zoonotic or foodborne disease, and the most important regulations and laws about zoonotic and foodborne disease, and the agencies with the authority to supervise and enforce them.	✓	✓	✓
9	Understand issues related to environmental health in agricultural settings.			✓
10	Understand issues related to a variety of other related topics in veterinary public health.			✓

Competencies

Continuing Education and ACVPM Study Group

All three core courses of the MPH-VPH program, zoonotic diseases (VPM 721), food-borne diseases and food safety (VPM 722), and biosecurity, environmental health and other VPH issues (VPM 723), have been recognized by the Ohio Veterinary Medicine Association (OVMA) as continuing education courses. Therefore, veterinarians in the state of Ohio can take these courses to maintain their license requirements.

In addition to all the basic MPH-VPH course requirements, veterinarians in the program are provided with **supplementary support opportunities in their preparation for the board examination of the American College of Veterinary Preventive Medicine (ACVPM)**. These support opportunities include preparatory classes, educational materials, organized discussion and study groups, and ready access to multiple ACVPM board-certified veterinarians on the faculty of the CVM. The option to leave the program with both the MPH degree and ACVPM board certification is attractive to many veterinarians and ideal for military veterinarians, who will return to active duty with public-health-oriented duty assignments. **In the last three years, this study group has been very successful in supporting veterinarians taking the ACVPM board exam and becoming diplomats: 1/1 (2006), 4/4 (2007), 3/3 (2008).**

Academic Performance

Time to Completion

Based on their time commitment, there are three groups of students in the MPH-VPH program: full time, part time, and DUAL degree students. The Full time students are those that are taking the full load of classes as designed and their main goal is to obtain the MPH-VPH degree to go to the market place. Part time students are those professionals or students that need to work and are only taking from one to two classes per quarter. This type of student must have an approved study plan before they can start the program. Finally, the Dual Degree students are those students that have finished the course work and practice placement, and they are currently in a professional college pursuing a second degree such as DVM or MD. Once they complete the culminating project, being done parallel to their professional degree, then they will defended it and obtain their MPH-VPH degree. **Currently, the average time for completion of the MPH-VPH program for full-time and dual-degree students is 6 and 10 quarters respectively.** At this time, there are no part-time students that have graduated from the program yet.

Practice Placement

Seventy students have performed their practice placement in multiple federal, state and local agencies, research and academic institutions, and industries (see appendix C). This is a unique opportunity for the students to put into practice the knowledge acquired in their course work and to obtain real life experience. During their practice placement, the students have developed interesting activities and projects that have a significant or relevant impact on the different agencies in which they performed their practice placement. Examples of such projects are presented in Appendix E.

Culminating Projects

Of the 30 students graduated to date, they have presented their culminating projects in multiple avenues depending on the type or characteristics of the projects developed. These activities are summarized below.

Peer-Reviewed Publications	Service Projects	Conferences	Funded Grants
2	6	9	1

Peer-Reviewed Publications These are some examples of recent publications:

- Harvey R, et. al. A metagenomic approach for determining prevalence of tetracycline resistance genes in the fecal flora of conventionally raised feedlot steers and feedlot steers raised without antimicrobials. *Am J Vet Res.* 2009. 70(2):198-202.
- Pandya M, et. al. Environmental Salmonella Surveillance in The Ohio State University Veterinary Teaching Hospital. *Vector Borne Zoonotic Dis.* 2009.

Four other publications from Culminating Projects are currently in preparation.

Service Projects. Several of our students have developed projects for federal, state, and local agencies, as well as private companies that because of their nature are highly confidential and cannot be published or presented to the general public. However, these projects have a major impact on the veterinary public health field. Examples of such projects are:

- Service Dogs and Biological Event Response, for the Columbus Public Health Department.
- Ohio Department of Agriculture (ODA) Animal Disease Diagnostic Laboratory's Emergency Management Plan.
- Design of an Internship Program for the Division of Meat Inspection of the ODA.
- Animal Emergency Management Template Plan for Auglaize, Darke, Mercer, and Shelby Counties, for the USDA.

Conference and Scientific Events List of the scientific conferences or events where our students have presented their work:

- Midwest Veterinary Conference, Ohio Veterinary Medicine Association (OVMA), Columbus, Ohio.
- Conference for Research Workers in Animals Diseases (CRWAD), Chicago, Illinois.
- Ohio Public Health Combined Conference, Columbus, Ohio.

APPENDIX I

The Ohio State University

College of Veterinary Medicine

College of Public Health

MASTER OF PUBLIC HEALTH VETERINARY PUBLIC HEALTH SPECIALIZATION SUMMARY OF REQUIREMENTS

1) MASTER OF PUBLIC HEALTH CORE COURSES (20 CREDIT HOURS)

- | | |
|-------------------|--|
| I. PUBH-BIO 701 | Design and Analysis of Studies in the Health Sciences I |
| II. PUBH-EPI 710 | Principles of Epidemiology |
| III. PUBH-EHS 731 | Principles of Environmental Health |
| IV. PUBH-HBP 720 | Preventing Disease and Promoting Health through Behavioral Sci |
| V. HSMP 800 | Health Care Organization I |

2) VETERINARY PUBLIC HEALTH SPECIALIZATION CORE COURSES (20 CREDIT HOURS)

- | | |
|-------------------|--|
| I. VET PREV 721 | Epidemiology of Zoonoses and diseases common to animals and humans (Zoonotic Diseases) |
| II. VET PREV 722 | Food borne diseases, food animal production systems, and food safety (Food-Borne Illnesses and Human Health) |
| III. VET PREV 723 | Biosecurity, Environmental Health, and other Veterinary Public Health Topics |
| IV. PUBH-BIO 702 | Design and Analysis of Studies in the Health Sciences II |
| V. PUBH-EPI 711 | Epidemiology I |

3) ELECTIVES COURSE (12 CREDIT HOURS MINIMUM)

- The electives courses are selected accordingly to the student's specific needs and goals
- They must be approved as appropriate for the specialization in Veterinary Public Health

4) FIELD PRACTICE PLACEMENT IN PUBLIC HEALTH (PUB HLTH 685 - 4 CREDIT HOURS MINIMUM)

- The students will be placed with approved professionals performing Veterinary Public Health activities

- The practice placement is selected accordingly to the student’s specific needs and goals; and can be completed locally, nationally or internationally

5) CULMINATING EXPERIENCE

(VPM 999 - RESEARCH IN VETERINARY PREVENTIVE MEDICINE - 4 CREDIT HOURS MINIMUM)

- The student must design and develop a project to generate new knowledge in the field or to solve an important Veterinary Public Health problem

Degree Summary

Core	20
Specialization	20
Approved Electives	12
Practicum	4
Culminating Experience	4
Total (minimum)	60 credit hours

Admissions, Administrative Arrangements, Etc.

Applicants will complete the application materials for the MPH program (registrar code 738) and submit them through the College of Public Health. Detail information of the admission process could be found in the CPH web site: <http://www.cph.osu.edu/>

The applicants should clearly indicate his/her intention to pursue the VPH specialization within the MPH. Then, the admission material will be sent to the VPH committee in Veterinary Preventive Medicine Department (VPM), who will review the applications and recommend students for admission (in the same way that CPH divisions handle MPH applicants for their area of specialization). Any admissions policy questions or issues will be handled between the CPH graduate studies committee and the VPM committee represented by its coordinator, Dr Armando E. Hoet.

The student’s adviser will be chosen from the VPM faculty, with a possible “co-adviser” from the CPH faculty. Any student petitions (e.g., for course waiver or substitution) would be handled by the CPH graduate studies committee. The CPH will work with the VPM committee to resolve potential issues of course scheduling, overlaps in content, etc. The program has been designed so that a student can complete the course work in at least four quarters, allowing direct progress into other professional degrees as the DVM program. A full time student should finish all the requirements in 1.5 to 2 years.

Tentative schedule matrix:

Autumn	Winter	Spring	Summer
PUBH-BIO 701	PUBH-BIO 702	PUBH-EPI 711	PUB-HLTH 685
PUBH-EHS 731	PUBH-HBP 720	VET PREV 723	VET PREV 999

Appendices – VPM Self Study Report: 2003-2008

HSMP 800	PUBH-EPI 710	Elective 2*	
VET PREV 721	VET PREV 722	Elective 3*	
	Elective 1*		

* Placement of 12 hours of elective courses is optional. Before to register any elective, the student should have the approval of the adviser and VPH coordinator.

APPENDIX J

The Ohio State University

College of Veterinary Medicine

College of Public Health

MASTER OF PUBLIC HEALTH VETERINARY PUBLIC HEALTH SPECIALIZATION POSSIBLE ELECTIVES

The electives a student will choose depend upon their final career goal:

➤ **Students interested in food industry or food safety should explore the following options:**

▪	FD SC & TE 630 hrs	Principles of Food Processing	Winter	4	cr
▪	FD SC & TE 636 hrs	Food Microbiology	Au & Sp	5	cr
▪	FD SC & TE 640 hrs	Food Regulations	Winter	3	cr
▪	FD SC & TE 610 hrs	Processing of Fluid Milk and Related Products	Winter	4	cr
▪	FD SC & TE 868 hrs	Molecular Biology Techniques	Summer	5	cr

➤ **Students interested in infectious diseases and pre-professionals should explore the following options:**

➤	VET PREV 700	Molecular Epidemiology of Infectious Diseases	Spring	3	cr hrs
➤	VET PREV 696	International Topics in VPH	Spring	2	cr hrs
▪	MICRBIOL 522	Immunobiology	Winter	5	cr hrs
▪	MICRBIOL 649	Introductory Virology	Winter	5	cr hrs
▪	MICRBIOL 647 hrs	Eukaryotic Pathogens	Autumn	3	cr
▪	FD SC & TE 636	Food Microbiology	Au & Sp	5	cr hrs
▪	VET BIO 715	Applied Veterinary Medical Virology	Spring	3	cr hrs
▪	PUB HEALTH 815	Infectious Diseases Epidemiology	Winter	4	cr hrs

➤ **Students interested in becoming veterinary public health official should explore the following options:**

▪ PUBPOL & M 730	Public Finance	Winter	5	cr
	hrs			
▪ PUBPOL & M 810	Strategic Management	Spring	4	cr hrs
▪ PUBPOL & M 811	Public Management & Human Relations	Spring	4	cr hrs
▪ PUBH-HPB 824	Program Evaluation in Public Health	Au & Sp	4	cr hrs

➤ **Students interested in veterinary public health outreach education should explore the following options:**

▪ AGR EDUC 622	Continuing Education in Agricultural and Extension Education	Winter	3	cr hrs
▪ AGR EDUC 811	Administration and Supervision	Spring	3	cr hrs
▪ AGR EDUC 823	Program Planning	Autumn	3	cr hrs

APPENDIX K

**PRACTICE
MPH-VPH PROGRAM**

PLACEMENTS

Local and State Agencies	Research Centers, Universities, and Other Institutions
<ul style="list-style-type: none"> ◆ Columbus Health Department, Ohio. <ul style="list-style-type: none"> ● Department of Emergency Preparedness. ● Communicable Disease Prevention. ◆ Union County Health Department, Ohio. ◆ Rhode Island Department of Health. ◆ Ohio Department of Agriculture. <ul style="list-style-type: none"> ● Animal Disease Diagnostic Laboratory. ● Toxicology Division. ● Division of Meat Inspection. ● The Consumer Analytical Lab. ● Food Safety Division. ◆ Ohio Department of Health. <ul style="list-style-type: none"> ● Zoonotic Disease Program. ● Vector-borne Program. ● Epidemiology Dpt. ● Bureau of Infectious Disease Control 	<ul style="list-style-type: none"> ◆ The Ohio State University. <ul style="list-style-type: none"> ● College of Veterinary Medicine. <ul style="list-style-type: none"> · The Comparative Orthopedic Molecular Medicine Lab. · Cytometry Core Center. ● Office of Work Development, Ohio Center of Public Health Prepared. ● FAHRP (Food Animal and Health Research Program), OARDC (Ohio Agricultural and Research Development Center), Wooster, Ohio. ● OSU Medical Center, Department of Infectious Disease, Clinical Epidemiology. ◆ Case Western Reserve University, Center for Global Health ◆ Cleveland Metro Parks Zoo.
Federal Agencies	International
<ul style="list-style-type: none"> ◆ USDA-APHIS-Veterinary Services. <ul style="list-style-type: none"> ● Pickerington Office, OH. ● Columbia Office, SC. ◆ US Geological Survey. <ul style="list-style-type: none"> ● Ohio Water Science Center. ◆ CDC, Atlanta ◆ USDA-APHIS-Wildlife Services <ul style="list-style-type: none"> ● Ohio State Office. 	<ul style="list-style-type: none"> ◆ National Institute of Veterinary Research, Vietnam. ◆ University of Joao Pessoa, Brazil. ◆ World Organization for Animal Health (OIE), France.

Examples of culminating experience projects completed by students in fulfillment of

their requirements for the Master of Public Health - Veterinary Public Health specialization degree program at the Ohio State University.

Title of Culminating Project	Type of Project	Final Product
"Proportion and Diversity of Tetracycline Resistance Genes in Fecal Community DNA Samples from Conventional and Antibiotic Free Reared Beef Cattle"	Applied Research	Scientific Manuscript (Published)
"Environmental Salmonella Surveillance in the Ohio State University Veterinary Teaching Hospital"	Applied Research	Scientific Manuscript (Published)
"Practice Based Communication and Disease Reporting Survey of Ohio Veterinarians"	Applied Research	State Health Department Reference Document
"A Retrospective Study of Leptospirosis in Ohio Animals between 2002 and 2005"	Applied Research	Scientific Manuscript (in preparation)
"Prevalence of Methicillin-Resistant Staphylococcus aureus (MRSA) on Human and Canine Contact Surfaces in a Large Veterinary Teaching Hospital"	Applied Research	Scientific Manuscript
"Methicillin Resistant Staphylococcus aureus surveillance in a Veterinary Teaching Hospital"	Integrative Writing	Grant Proposal (Funded)
"Development of a Zoonotic Diseases Reference Document"	Integrative Writing	State Health Department Reference Document
"USDA Animal Disease Incident Plan Template for County-Level Emergency Response"	Integrative Writing	Federal Agency Emergency Response Template
"Laboratory Emergency Management Plan for the Ohio Department of Agriculture's Animal Disease Diagnostic Laboratory"	Integrative Writing	State Agricultural Department Reference Document
"Service Dogs and Biological Event Response"	Integrative Writing	Local Health Department Emergency Response Plan

Examples of practice placement activities or projects completed by students in fulfillment of their requirements for the Master of Public Health - Veterinary Public Health specialization degree program at the Ohio State University.

Title of Practice Placement Activity/Projects	Agency
"Educational Campaign for Firefighters and First Responders on Pandemic Influenza"	Columbus Public Health Department
"Disease Fact Sheets to be dispensed to the general public in the event of a disease outbreak"	Columbus Public Health Department
"Food Defense Course for Ohio Processors"	ODA Division of Meat Inspection
"Guide to Developing a Working Food Defense and Bio-Security Plan for Ohio Meat and Poultry Processors"	ODA Division of Meat Inspection
"Foreign Animal Disease Responder Course (FADRC) trainer's certification"	USDA-APHIS-VS

APPENDIX L

MASTER OF PUBLIC HEALTH VETERINARY PUBLIC HEALTH SPECIALIZATION CULMINATING PROJECT OPTIONS

The CP is a required learning activity intended to assist each student in synthesizing and applying content from the program. Some of the options are:

1. NON-THESIS OPTION

1.1. Integrative Writing Project

- 1.1.1. Evaluation of a program, service, intervention, method, techniques, etc. for an agency or company (contract service).
- 1.1.2. Design or evaluation of surveillance/monitoring programs, or emergency/response plans.
- 1.1.3. Major Veterinary Public Health project.

1.2. Grant Proposal

- Preparation of competitive grants to be submitted to major funding sources. The grants can be: Training, Research, Service, and Educational Grants.
- Typical funding sources are: Federal and state agencies (CDC, NIH, ODH, USDA etc.), National foundations (Robert Wood Johnson, Pew, Kellogg, Bill and Melinda Gate, etc.), Other non-profit organizations (American Cancer Society, Red Cross etc.), and Local foundations and organizations (Columbus Foundation, Columbus Medical Association Foundation, Canine Foundation, etc.)

1.3. Applied Research Project

- 1.3.1. Retrospective studies analysis.
- 1.3.2. Comprehensive case study (Case reports).

Or

2. MASTER'S THESIS OPTION.**

- Traditional Research-based (“pilot study” to obtain preliminary data).

*** Best option if interested in pursue a PhD degree after MPH-VPH*

APPENDIX M

OSU Large Animal Services

Seminar Schedule

Monday Tuesday Wednesday Thursday Friday

Orient	BW Bovine G.I. diagnostics	BW Bovine G.I. diseases	LT Bovine Reproduction	EG Bovine Vaccination programs
BW Dystocia management	DS Abortions	LT Managing common emergencies	Test	Review

Equine reproduction

- Equine lameness terminology
- Equine dental care
- Equine endocrine diseases
- Failure of passive transfer
- Equine infectious diseases
- Bovine cardiology
- Bovine oncology
- Prolapses of the vagina and uterus
- Equine Castration and complications

Example 2008-2009:

Dr. Masterson:

- VPM 101 – Survey in Veterinary Medicine – Co-team leader
- VPM 796.17 – Bovine palpation
- VPM 796.08 - Swine diseases
- VCM 510 – Epidemiology
- VPM 796.12 – Literature in Production Medicine

Dr. Gordon:

VPM 796.17 – Bovine palpation
VPM 796.06 – Dairy herd Health

Dr. Sanders:

VM 746 – Cattle Diseases
VPM 796.18 – Therio. elective

Dr. Midla:

VM 746 – Cattle Diseases
VPM 796.12 – Literature in Production medicine
VPM 796.06 – Dairy Herd Health
An Sci 413 – Principles of Animal Health
An Sci 600 – Capstone
An Sci 547 – Dairy Herd management
VPM 796.16 – Selected topics in Dairy Production
VPM 796.13 – Applied Dairy Nutrition

Dr. Welker:

VPM 101 – Survey in Veterinary Medicine

Ancillary involvement:

Example

College/Organizational committee commitments: (2008-2009)

Dr. Welker:

Admissions Committee
Council on Education
Executive Committee
Interview committee
Chairman OVMA – Equine
Search Committee (Marysville)

Dr. Gordon:

Faculty advisor for Food Animal club
Interview Committee
Search committee (Marysville)

Dr. Sanders:

Interview committee
Search committee (Marysville)

Dr. Midla:

Interview committee

Search committee (Marysville)

Dr. Masterson:

Interview committee

Search committee (Marysville)