The following list of study references is NOT a definitive, exhaustive list for preparing for the ACVPM examinations in the five subject areas:

1. Environmental Health and Toxicology
2. Epidemiology and Biostatistics
3. Food Protection
4. Infectious and Parasitic Diseases
5. Public Health Administration and Education

Use this list as a guide, in as much as it represents a compromise between brevity and completeness. Supplementary titles are provided for those who wish to do additional reading.

You are encouraged to read as much additional material as possible. Reading the current scientific and professional literature (ProMed, JAVMA, MMWR, Lancet, NEJM, Science, etc.) is also necessary to properly prepare for the examinations.

**Primary references applicable to more than one subject area:**

- Control of Communicable Diseases Manual. Washington, DC: American Public Health Association (Infectious Diseases, Food Protection)

**1. ENVIRONMENTAL HEALTH AND TOXICOLOGY**

The Environmental Health and Toxicology section includes nine subcategories: Air; Land/soil; Water; Waste; Emergency Preparedness and Response; Occupational Health; Vectors; Radiation; and Toxicology. An equal number of questions will be drawn from each subcategory in the multiple choice section of the exam. The Toxicology subcategory draws upon the principles of toxicology and toxic substances in general. Applied knowledge of toxicology is incorporated into many of the subcategories areas.

**Primary References**

- Peter Rabinowitz and Lisa Conti, editors, Human-Animal Medicine: Clinical Approaches to Zoonoses, Toxicants, and Other Shared Health Risks, 2010, Saunders/Elsevier (There are several non-infectious disease chapters that are applicable.)
- Osweiler, G.D.: Toxicology, 1996, Williams and Wilkins, Media, PA
- Websites in topic areas: U.S. Environmental Protection Agency, Centers for Disease Control and Prevention’s National Center for Environmental Health, Agency for Toxic Substances and Disease
Supplementary References

- Koren, H; Bisesi, M: Handbook of Environmental Health (2 volumes), current edition, CRC Press/Lewis publishers, Boca Raton, FL
- Medical Management of Radiological Casualties, current edition, Military Medical Operations, Armed Forces Radiobiology Research Institute
  [link](http://www.usuhs.edu/afrri/outreach/pdf/4edmmrchandbook.pdf)

2. EPIDEMIOLOGY AND BIOSTATISTICS

The Epidemiology and Biostatistics section of the multiple choice exam includes questions that are drawn from 10 subcategories: Data distributions; Diagnostic tests; Measures of disease occurrence and measures of effect; Analytical study designs and measures of association; Biostatistics; Outbreak investigation; Causality; Basic epidemiology concepts; Economics; and, Surveillance and sampling designs.

Epidemiology is the basic science with tools to support decision making processes in veterinary public health and preventive medicine. It deals with the investigation of diseases, production losses, and health issues in animal and human populations. Essential activities within epidemiology encompass the broad areas of study design, data collection, analysis, and interpretation. Biostatistical methods and techniques are relied upon to objectively determine which factors are associated with specific outcomes.

Preventive medicine professionals and other practitioners dealing with this topic must be able to integrate and synthesize information obtained from epidemiological findings with their knowledge from other basic and clinical sciences to design effective disease control and health maintenance programs. This includes the ability to plan surveillance or research activities and to evaluate the results.

General Epidemiology study objectives include:

- Describe different types of study designs, when they are used, and the advantages and disadvantages of each
- Interpret properties of diagnostic tests
- Calculate common measures of disease occurrence
- Use epidemiologic methods to identify risk factors
- List and describe the steps in an outbreak investigation
- Describe guidelines for evaluating causality in epidemiologic studies
- Describe different routes of disease transmission and sources of infection
- Describe common disease control and prevention strategies
- Explain how bias and confounding influence the results of epidemiologic studies
- Describe methods for prevention and control of confounding
- Interpret epidemiologic literature
Biostatistics -- The ACVPM General Exam will require biostatistical knowledge that is essential for a diplomate to operate within the preventive veterinary medicine fields. Basic biostatistics and the statistics used in epidemiologic studies and investigations will be the foci. General biostatistics books will provide the underlying knowledge required but should be supplemented with an analytic epidemiology text.

General Biostatistical study objectives include:

- Describe common probability distributions
- Describe data using measures of central tendency and dispersion
- Name common statistical tests for different data types and study designs
- Interpret results of statistical hypothesis tests
- Interpret regression coefficients and confidence intervals
- Differentiate between the two types of hypothesis testing errors
- Describe the elements involved in sample size estimation
- Determine appropriate statistical methods for epidemiologic studies
- Interpret common multivariable statistical models used in epidemiologic research

Primary References

☐ Smith RD. Veterinary Clinical Epidemiology current edition. CRC Press, Boca Raton, FL.

Supplementary References

☐ Thrusfield M. Veterinary Epidemiology, current edition. Blackwell Science: Ames, IA.
☐ Gregg MB. Field Epidemiology, current edition. Oxford University Press, Inc. NY, NY

3. FOOD PROTECTION

Food science in the ‘Farm to Fork” spectrum is essential for a diplomate to operate within the preventive veterinary medicine fields. The Food Protection section includes nine subcategories: Agents and sources of foodborne illness (including microbiological, virology, chemical, toxicological, and radiological); Preharvest; Postharvest and Processing; Detection methods and analytics; Food Defense; Food Security (as it relates to Food Safety); Product safety and consumer exposures; Outbreaks, epidemiology, and surveillance; Policy and regulation guidance, controls, and compliance; and Current Topics (e.g. biotechnology, nanotechnology, antimicrobial resistance, global health).

Primary References

Websites provide key reference materials and current topics:

www.acvpm.org
4. INFECTIOUS AND PARASITIC DISEASES

The Infectious Diseases section includes eight subcategories: Immunology and Pathogenesis; Transmission; Pharmaceuticals; Biologics; Diagnostics and Chemicals; Bacterial, Viral, Rickettsial, Parasitic, TSE, and Mycotic Agents; Foreign Animal Diseases; and, General.

Primary References

- Foreign Animal Diseases – Current Edition – United States Animal Health Association
- Handbook of Zoonoses: Identification and Prevention, Colville and Berryhill or Zoonoses and communicable diseases common to man and animals, Volumes I & II, Pan American Health Organization
- Emerging Infectious Diseases (on-line Journal), U.S. Department of Health and Human Services, the Public Health Service, the Centers for Disease Control and Prevention

www.acvpm.org
5. PUBLIC HEALTH ADMINISTRATION AND EDUCATION

The Public Health Administration and Education section includes nine subcategories: Risk Assessment; Communications (including Risk Communication); Governmental Function; Governmental Organization; Laws, Policies and Plans; Leadership; Prevention; Surveillance/Monitoring; and Evaluation.

General Public Health Administration and Education study objectives include:

- Describe governmental functions (regulatory/rule-making and enforcement, policies, responsibilities, information/data collection and management) that directly impact public health.
• Understand the organizational structure and define the major federal agencies and departments with functions and responsibilities that pertain to public health.
• Describe governmental interactions and relationships (local, state, federal) pertaining to public health, including the relationship, responsibilities, and distinctions between environmental services, wildlife services, agriculture and public health.
• Understand the ten essential public health services.
• Describe the three levels of prevention (primary, secondary, tertiary).
• Describe the benefits of a multidisciplinary team of public health professionals working at the local level.
• Define necessary steps to develop and implement public health plans.
• Define the responsibilities and integrated relationships of public health with partners in public health preparedness/terror preparedness, and the veterinary practitioner in emergency management/public health preparedness. Describe the benefits of a multidisciplinary team of public health professionals working at the local level.
• Define steps to conduct a risk assessment.
• Understand basics of risk communication and message mapping. Understand the public health communication interactions with diverse sectors of the public-at-large, the media, and government officials.

Primary References

☐ Principles and Practice of Public Health Surveillance, current edition by Lisa M. Lee (Editor), Steven M. Teutsch (Editor), Stephen B. Thacker (Editor), Oxford University Press, USA.
☐ AVMA Directory for AVMA Policy Statements and Guidelines; information on government agencies and their specific branches/offices that utilize veterinarians; and, references to other resources, including specialty groups.

Supplementary References