REF. NO	C-EBVM.1
TITLE	**Evidence based Veterinary Medicine**
CATEGORY AND VALUE	**C – 10 CREDITS**
NOTIONAL STUDY HOURS	**100**

This module description draws on a number of sources, in particular: The RCVS Knowledge EBVM website http://knowledge.rcvs.org.uk/evidence-based-veterinary-medicine/what-is-ebvm/ and their funded initiative, EBVM Learning www.ebvmlearning.org

Introduction

Safeguarding the welfare of animals committed to veterinary care and safeguarding the wider public interest is dependent on veterinary practitioners grounding their decisions on sound, objective and up-to-date evidence.

Appropriate use of evidence is a fundamental component of Clinical Governance, the approach to maintaining and improving quality of care which emphasises patient safety, clinical effectiveness and patient & client experience and which forms part of the professional responsibilities of all UK veterinary surgeons.

This CertAVP module in Evidence Based Veterinary Medicine (EBVM) is aimed not just at clinicians wishing to learn more about evidence-based approaches to the care of individual patients but also to veterinary surgeons required to make decisions about the care of animal populations and the wider provision of veterinary healthcare. It is intended to provide candidates with the tools needed to make evidence-based decisions in veterinary practice and to encourage them to think critically about the wider regulatory and developmental implications of EBVM.

The EBVM module is one of the modules that may be taken to achieve the designated certificate in Veterinary Primary Care. It builds upon topics covered in FAVP.1 and complements all other CertAVP modules.

Aim

The module aims to encourage candidates to develop their understanding of the theory and practice of evidence based veterinary medicine, including its advantages and limitations, and to enable them to apply this understanding to their own particular area of practice in order to improve the quality of decision making and ultimately the quality of clinical care and delivery of veterinary healthcare.

Structure

This module is based around six key themes:

1. Rationale for EBVM

2. Converting information needs into answerable questions

3. Searching for evidence

4. Critically appraising the quality and applicability of research

5. Application to practice and implementation

   6. Evaluating performance

Candidates may undertake the module from any practice perspective (such as clinical, population heath, healthcare management and animal health policy) and be assessed accordingly.

Learning Outcomes

On successful completion of the module, successful candidates will be able to:

- Explain the key concepts and principles of EBVM and discuss the strengths and weaknesses of using evidence as a basis for decision-making in veterinary practice

- Transform information needs on veterinary clinical and practice problems into answerable scientific questions

- Search effectively for the best evidence with which to support decision-making in veterinary practice

- Critically appraise the validity and usefulness of various types of research studies relating to chosen areas of veterinary practice

- Apply basic statistical and epidemiological concepts in order to interpret and apply evidence in veterinary practice

- Critically reflect on the application and implantation of evidence-based approaches in a specified area of veterinary practice

Indicative Content

Candidates will be expected to identify and pursue their own learning needs in order to achieve the specified learning outcomes.

The following questions and themes provide an indicative framework for learning.

Key Themes

1. **Rationale**

- What is EBVM and how is it situated in the broader philosophical discourse of veterinary science?
- How do evidence-based and more 'traditional' approaches compare?
- How have evidence-based medicine and similar approaches in veterinary practice evolved?
- Why should veterinary surgeons adopt an evidence-based approach to practice (and why might they not)?

2. **Converting information needs into answerable questions**

Categorisation of clinical questions – Patient, Intervention, Comparison, Outcome (PICO)

Types of clinical questions that may be assessed:

- Diagnostic approach
- Therapeutic strategy
- Risk factors
- Prognosis
- Disease prevention

Types of healthcare questions that may be assessed:

- Effectiveness
- Safety
- Client satisfaction
- Cost-effectiveness
- Appropriateness (for practice) and necessity

Approaches to appraisal

- Prioritising questions, e.g. What is most important? Where is the evidence?

3. Searching for evidence

- The hierarchy of evidence
- Sources of information and evidence (e.g. academic journals, books, the 'grey literature' experience) and where such sources can be found (e.g. libraries and the internet)
- Search strategies
- Sensitivity and specificity in searching
- Using search engines and reference databases such Pubmed, CABi and SCOPUS.
- Storing and managing evidence e.g. use of Endnote
- Knowledge summaries and Critically Appraised Topics (CATs)

4. Critically appraising the quality and applicability of research

Scientific method

In the setting of an answerable question, the candidate should be able to critically appraise the scientific method which is underpinned by scientific theory which may include:

- Observations, hypothesis, predictions, experiments
- Common approaches e.g. hypothetico-deductive
- A priori and post hoc hypotheses
- Inference – frequentist v Bayesian

Research design/approach

The candidate should be able to understand the role of, and be able to critically appraise evidence from:

- Descriptive vs analytic research
- Systematic reviews
- Randomised controlled trials (RCT)
- Case-control studies
- Cohort studies
- Cross-sectional Surveys
- Descriptive studies

They should be aware of:

- Decision analysis
- Qualitative studies

Interventions and topics

The candidates should understand the types of intervention and topics for which evidence may be appraised and the most applicable study design for these areas:

- Aetiology and risk factors
- Therapy and outcomes, including drug trials
- Diagnostic tests and screening programmes
- Prognosis
- Guidelines
- Health policy/management interventions

Epidemiological method and principles

- Defining cases
- Measures of risk
- Calculating rates
- Making comparisons
- Error, bias and validity

Statistical principles:

- Data – types, distributions and summaries
- Commonly-used statistical tests
- Probability and confidence
- Correlation and regression
- Statistical power

5. Application to practice and implementation

General

Determining the generalisability of evidence and its relevance to particular clinical and practice decisions Feasibility of applying evidence in given contexts – e.g. can the evidence be applied? Are there barriers such as cost or practicality?

Using the evidence for clinical decision-making

Optional related areas that may be considered include:
- Providing evidence in practice
- What practice resources are required?
- Education for individuals and organisations

Promoting use of evidence
- Clinical audit
- Significant Event Reporting
- Clinical guidelines

Consuming and using evidence
- For clinical decision-making
- For practice decision-making, for example in veterinary health policy and procurement policy
- Sharing data

6. Evaluation of performance

- Evaluating the formulation of clinical and practice questions
- Evaluating the effectiveness of information searching

C – Evidence Based Veterinary Medicine. 1
- Evaluating ability to critically appraise evidence
- Evaluating how evidence is integrated into practice decision-making
- Self-evaluation and reflection
- Barriers and challenges to implementation of EBVM
- Organisational culture, communication and team-working implications of implementing evidence based practice in order to effect sustainable improvements in practice

Assessment

Module providers are responsible for deciding on assessment strategies and methods, subject to accreditation by RCVS. The following general guidance applies to assessment of this module:

- Assessment will be in accordance with the general requirement for the CertAVP qualification to be benchmarked against the Quality Assurance Agency's (QAA) "7" level in the national qualifications framework.
- Assessment will support the RCVS requirements for the module to be accessible to candidates from a wide variety of veterinary backgrounds and to focus on the veterinary aims of management and leadership
- Assessment will be aimed at encouraging learning and at measuring progress towards the intended learning outcomes of the module.