Genesis of *DVM Evidence*: A veterinary and one-health focused systematic review evaluation database

Derek Halling, AHIP – On-site Services Coordinator
Heather K. Moberly, AHIP – Coordinator of Veterinary Services
Margaret Foster, AHIP – Systematic Reviews & Research Coordinator

Medical Sciences Library
Texas A&M University
The objective of creating DVM Evidence included four parts:

1. Creating a project team.
2. Developing a database with flexibility for improvements over time.
3. Providing initial and ongoing training for team and future contributors.
4. A consistent and understandable workflow.
Methods: Creating a project team

The four parts of creating **DVM Evidence**

Project team make-up:
- Systematic Review Librarian
- Veterinary Librarian
- Systems/Services Librarian
- Graduate Student

Selected for expertise, experiences, training, and creativity.

Challenges:
- Relatively short timeline
- Multiple obligations
- Mid-course adjustments
- Grad Student ability
Methods: Develop a database

The four parts of creating DVM Evidence

Database setup:
- Basic LAMP stack
- Recent version coding/software
- Modular and extendable
- Interaction with other software

Challenges:
- Personnel authentication and changes/needs
- Schedules and functionality versus aesthetics decisions
Methods: Team Training

The four parts of creating **DVM Evidence**

- Reliability of coding form:
  - Conditional questions
  - AMSTAR, PRESS, PRISMA
  - Location in article
  - Absolutes and suggestions

Challenges:
- Varying perspectives of questions
- Technological limitations of coding form (in Qualtrics)
Methods: Repeatable Workflow

Project Team

Develop a Database

Team Training

Repeatable Workflow

The four parts of creating DVM Evidence

Screening/Reviewing/Coding of the articles.
- Articles moved into Refworks
- Articles reviewed and results entered into Qualtrics
- Qualtrics results imported into DVM Evidence

Challenges:
- Dependency on external software
- Simplicity for additional users
Screening and Primary Studies
## 8.1. AMSTAR checklist

**questions explained**

<table>
<thead>
<tr>
<th>AMSTAR Checklist Question</th>
<th>Yes</th>
<th>No</th>
<th>Unsure</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Was an &quot;a priori&quot; design provided?</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>2. Was there duplicate study selection and data extraction?</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>3. Was a comprehensive literature search performed?</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>4. Was the status of publication (i.e., grey literature) used as an inclusion criterion?</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>5. Was a list of studies (included and excluded) provided?</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>6. Were the characteristics of the included studies provided?</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>7. Was the scientific quality of the included studies assessed and documented?</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>8. Was the scientific quality of the included studies used appropriately in formulating conclusions?</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>9. Were the methods used to combine the findings of studies appropriate?</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>10. Was the likelihood of publication bias assessed?</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>11. Was the conflict of interest stated?</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>
AMSTAR Examples

2. **Was there duplicate study selection and data extraction?**
   There should be at least two independent data extractors and a consensus procedure for disagreements should be in place.

   *Note: 2 people do study selection, 2 people do data extraction, consensus process or one person checks the other’s work.*

   - [ ] Yes
   - [ ] No
   - [ ] Can't answer
   - [ ] Not applicable

5. **Was a list of studies (included and excluded) provided?**
   A list of included and excluded studies should be provided.

   *Note: Acceptable if the excluded studies are referenced. If there is an electronic link to the list but the link is dead, select “no.”*

   - [ ] Yes
   - [ ] No
   - [ ] Can't answer
   - [ ] Not applicable
User Search Interface

DVM Evidence

Enter Your Search Terms Or Phrases

Keyword

Author

Journal Title

Year Range

mm/dd/yyyy  mm/dd/yyyy

Type of Study
- Primary Study
- Secondary Study
- Systematic Review

Specialties
- Anesthesiology
- Behavior
- Cardiology
- Dentistry
- Dermatology
- Emergency / Critical Care
- Epidemiology
- Internal Medicine
- Preventive Medicine
- Rehabilitation / Sports Medicine

Species
- Feline
- Canine
- Equine
- Bovine

Search
Admin dashboard

Manage User Profiles

For Removing users, please select the checkbox against that user and click remove button. For Adding new users:

<table>
<thead>
<tr>
<th>Select</th>
<th>UserName</th>
<th>FirstName</th>
<th>LastName</th>
<th>AdministratorValue</th>
<th>EmailID</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>admin</td>
<td>vikas</td>
<td>null</td>
<td>1</td>
<td><a href="mailto:vikasmathatra006@amu.edu">vikasmathatra006@amu.edu</a></td>
</tr>
</tbody>
</table>

- Manage Primary Studies
- Manage Secondary Studies
- Manage Species, Specialties & Type of Studies
Results

Although most parts of the process were able to be adapted for use, the team decided:

• The concept of modular coding was essential to the project so as to avoid technical delays and barriers.

• A custom coding form that provides more flexibility and control would be necessary to remove reliance on a 3rd party application, and promote simplicity for additional users.

• Additionally, the ability to add comments to database entries by users should be included.
Conclusions

Development of the **DVM Evidence** systematic review database required a variety of skills, vision, and expertise, with frequent checkpoints along the way.

Additional progress will need to be accomplished through a focus on a simplistic, custom-made form, and usability testing of the search interface with external evaluators.


Thenk ye!