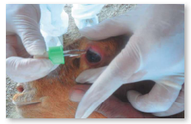
Biorisk Management Vaccine Field Guide for the Jordanian Veterinary Services

Suad. M. Aqel, DVM, Department of Animal Health Ministry of Agriculture
Marian Downing, Biosafety Consultant

Introduction

- Occupational health safety for veterinarians, para-vets, and animal care workers is a major concern
- These workers can be exposed to different types of hazards (biological, chemical, physical, psychological)
- Type and impact of this hazard depends on:
  - The workplace setting
  - Animal species
  - Tasks performed
- The Jordanian Ministry of Agriculture funds free vaccination for food/heritage animals as part of the diseases control strategy
  - Goal is to insure that the provision of vaccination through the government employs best biosafety and biosecurity practices
- Veterinary services comprised of veterinarians and para-professionals
  - Veterinarians: Supervise vaccination process, may not be present in the field, commonly speak English
  - Para-professionals: Administer vaccines, generate waste (sharps and used vials), ensure proper transport of vaccines, interact with the farmers, and usually only speak Arabic
- Workers can be exposed to significant risks to their health and safety through fieldwork activities involving:
  - Direct contact with animals
  - Unknown pathogens in isolated remote locations
  - Lack of ready access to emergency services
  - Self-infection due to inappropriate administration or handling of the vaccine
- The animal vaccination process is one of the routine work tasks which mostly takes place in the field (farms, barns, or pastures)

Primary Gap



- The animal vaccination process in Jordan is generally carried out with minimal understanding of biorisk management and personal protection
- Implementation of an attenuated live Brucella vaccine highlighted potential concerns about adverse effects on the health and safety of veterinarians, para-professionals, farmers and families, animals and the environment

Project Objectives

- To provide field workers with the required information and knowledge about vaccine biorisk management
- To provide field workers with occupational safety best practice guidelines
- To minimize the risk of injury that could be associated with use of vaccines on farms

Tasks

Preliminary Assessment of the current situation
Field workers perceived knowledge, availability of relevant references

Draft the field guide
Prepare and provide written guidance for the field vaccination process

Assessment of the first draft of the guide (comprehensiveness)

Finalize and distribute the final field guide

Methodology and Resources

1	Obtain management approval Literature review for data collection Assemble the Advisory Committee Design the knowledge questionnaire Draft table of contents Administer questionnaire to stakeholders
2	Revise table of contents Draft the first version of the guide using information from literature review Review the draft with Advisory Committee
3	Design the Satisfaction Survey Review the guide with board of different stakeholders Administer Satisfaction Survey, collect feedback Revise the guide based on feedback
4	Translation by Sandia Labs Review the Arabic version for further language edits Printing and distribution to field workers

Assembly of Advisory Committee

- Invited 7 members
  - Comprised of field workers, biosafety, epidemiologist, and biosafety consultant
    - Several Sandia-trained members
- Reviewed the committee scope
- Generated
  - Knowledge assessment
  - Study group composition
  - Table of contents of the field guide
  - Satisfaction survey
- Reviewed first draft
- Completed satisfaction survey

Knowledge Questionnaire

- Designed to measure perceived knowledge of veterinarians and paraprofessionals
- Administered to 20 veterinarians and 20 paraprofessionals
- Questionnaire contained 14 different questions which represented most of the suggested topics for the table of contents

Results of Knowledge Assessment

- Assessment of field workers perceived knowledge by administration of the questionnaire showed:
  - Differences in the knowledge between veterinarians and paraprofessionals
    - Paraprofessionals are not certified, do not have professional training
  - Common gaps and strengths

Questions	Vet	Para-Vet
Availability of instructions or guidelines for vaccination	GAP	GAP
Awareness of Best Practices of vaccination	Strength	Strength
Awareness of the requirements of vaccine cold chain process	Strength	Strength
Knowledge of Biorisk management concept	Strength	GAP
Knowledge of Biological risks associated with vaccination	Strength	GAP
Knowledge of best methods, practices and equipment for mitigation	Strength	GAP
Knowledge of recommended items of PPEs	Strength	GAP
Knowledge of Incident reporting and corrective actions (personal incidents)	GAP	GAP
Knowledge of Incidence reporting and corrective actions (for other's incidents)	Strength	GAP
Knowledge of Biosecurity measures in the field	GAP	GAP
Knowledge of best practices and methods for disinfection and sterilization	Strength	GAP
Knowledge of best practices of waste management	Strength	GAP
Use of sharp containers in the field	GAP	GAP
Awareness about people who are at high risk during application of the vaccine	Strength	GAP

Drafting the Guide

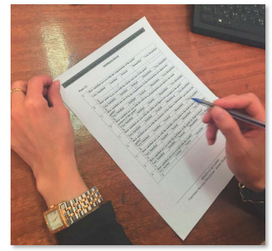
- The table of contents was updated based on the results of the questionnaire
  - Based on analysis of gaps and strengths
- The guide was drafted using the collected resources

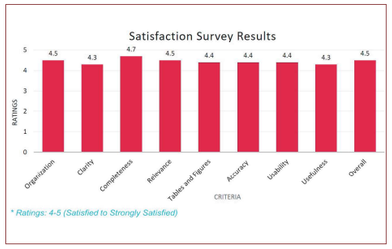
Guide Review by Stakeholders

- The drafted guide was administered for review (electronic copies)
- Committee feedback led to further edits
- Satisfaction survey was distributed with the guide

Satsifaction Survey

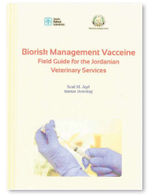
- The purpose of this survey was to assess the comprehensiveness of the guide
- The guide was reviewed by different stakeholders for feedback
  - Field veterinarians
  - Biorisk coordinators
  - BSOs
  - Advisory committee
- 10 survey responses were returned





Final Steps

- Printing of English version (final); Board Review of Arabic version



Conclusions

- Disparity of knowledge suggests that not all field workers have the needed skills and training
- Jordan Veterinary Services should adopt a biorisk policy:
  - Conduct a risk analysis for various field tasks
  - Define the best practices to minimize the risk
- Guidance will be used for:
  - Written reference
  - Training of professionals and para-professionals

Moving Forward

- Capacity building for veterinarians and paraprofessionals thru training on the field guide
- Developing SOPs related to topics in the guide
- Guide updating and Inclusion of companion animals and poultry vaccines

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