

## Evaluation of OIE Day 1 Competencies using the OSU-UoG Evaluation Tool

"AVSBN Virtual Workshop on VEE Accreditation Standards"

Thailand, 7 Dec 2020

Armando E. Hoet, DVM, PhD, DACVPM Director, Veterinary Public Health Program



THE OHIO STATE UNIVERSITY

#### **Points to Cover:**

- How the tool was developed
- How it is used in the curriculum assessment process
- How the results can be used to create an action plan to harmonize the veterinary curriculum to the OIE Day One Competencies and the OIE Core Veterinary Curriculum



# How was the Evaluation Tool developed?





#### Evaluation of OIE Day 1 Competencies Session 1: Epidemiology and Food Hygiene

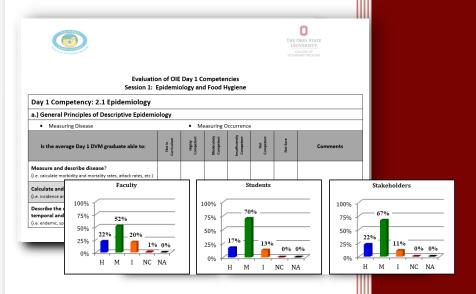
a.) General Principles of Descriptive Epidemiology									
Measuring Disease		• Me	easuring C	ccurrence	!				
Is the average Day 1 DVM graduate able to:	Not in Curriculum	Highly Competent	Moderately Competent	Insufficiently Competent	Not Competent	Not Sure	Comments		
Measure and describe disease? (i.e. calculate morbidity and mortality rates, attack rates, etc.)									
Calculate and describe disease occurrence? (i.e. incidence and prevalence)									
Describe the difference between the various temporal and spatial distributions of disease? (i.e. endemic, sporadic, and epidemic)									

If all OIE Day 1 Competencies are included in your curriculum

How proficient your graduates are with regard to the OIE Day 1 competencies

University of Gondar-The Ohio State University OIE Veterinary Education Twinning Program

## Evaluation Tool for OIE Day 1 Graduating Veterinarian Competencies







Organisation Mondiale de la Santé Animale World Organisation for Animal Health Organización Mundial de Sanidad Animal



May 2012



OIE recommendations on the Competencies of graduating veterinarians ('Day 1 graduates') to assure National Veterinary Services of quality





September 2013



Veterinary Education
Core Curriculum
OIE Guidelines





a.) Pre-Harvest

Day 1 Competency: 2.6 Food Hygiene

management practices in animals to keep them free of zoonotic foodborne pathogens? (i.e. Biosecurity, herd health checks, proper carcasses disposal, detection of important zoonotic foodborne





#### Evaluation of OIE Day 1 Competencies Session 1: Epidemiology and Food Hygiene

24

Competency

**Topics** 

Targeted Questions to specific Themes

Is the average Day 1 DVM graduate able to:	Highly Competent	Moderately Competent	Insufficiently Competent	Not Competent	Not in
Assess on-farm food safety practices to ensure the safety and suitability of food of animal origin in different production systems?  (i.e. general hygienic practices, proper feed "sources", proper use of antibiotics and pesticides, pharmaceutical residues)					
Understand and recognize safe preharvest					

Management Practices and Conditions to Ensure Safe and Wholesome Food

Hoet/Tomasi@2016



September 2013



Veccipary Education
Core Curriculum
Ole Guidelines





a.) Pre-Harvest

Day 1 Competency: 2.6 Food Hygiene

(i.e. Biosecurity, herd health checks, proper carcasses disposal, detection of important zoonotic foodborne





#### Evaluation of OIE Day 1 Competencies Session 1: Epidemiology and Food Hygiene

Competency

**Topics** 

Targeted
Questions
to specific
Themes

Management Practices and Conditions to	Ensure :	Safe and	Wholes	some Fo	od
Is the average Day 1 DVM graduate able to:	High ly Competent	Moderately Competent	Insufficiently Competent	Not Competent	Not in

	Con	Mod	Insuf	Con	-
Assess on-farm food safety practices to ensure the safety and suitability of food of animal origin in different production systems? (i.e. general hygienic practices, proper feed "sources", proper use of antibiotics and pesticides, pharmaceutical residues)					
Understand and recognize safe preharvest management practices in animals to keep them free of zoonotic foodborne pathogens?					

24

Hoet/Tomasi@2016

## 157 TOPICS AND THEMES



September 2013



Veccipary Education
Core Curriculum
Ole Guidelines









FINAL ASSESSMENT OF FOOD HYGIENE										
	Highly Competent	Moderately Competent	Insufficiently Competent	Not Competent	Not in Curriculum	Not Sure	Comments			
In conclusion, is the average Day 1 DVM graduate competent in <u>Food Hygiene</u> ?		×								

#### \*Definitions:

DVM: Doctoral graduates of the veterinary medicine program

**Highly Competent:** The average new DVM graduate is very knowledgeable/skillful about the topic and is able to perform the task/activity without additional support or guidance.

**Moderately Competent:** The average new DVM graduate is knowledgeable/skillful about the topic and is able to perform this task/activity with some support or guidance.

Insufficiently Competent: The average new DVM graduate is aware of the topic but is unable to perform the task/activity without substantial assistance.

Not Competent: While this topic is covered in the DVM curriculum, the average new DVM graduate is unaware of the topic and is unable to perform this task without further training or education.

28

Not in Curriculum: This topic is currently not covered in the veterinary curriculum.

Not Sure: Do not know how the average DVM graduate is able to perform this competency.

Hoet/Tomasi@2016

University of Gondar-The Ohio State University OIE Veterinary Education Twinning Program

## Evaluation Tool for OIE Day 1 Graduating eterinarian Competencies









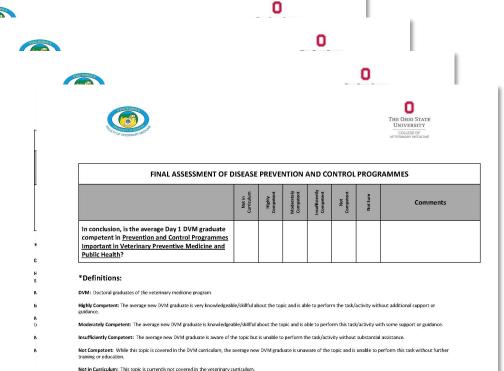
## BILL&MELINDA GATES foundation

2019

Hoet/Tomasi@2016

#### Paper-based

Not Sure: Do not know how the average DVM graduate is able to perform this competency.



#### **Digital**



### OIE Competency 2.4: Emerging and Re-Emerging Diseases Day 1 Competency: 2.4 Emerging and Re-Emerging Diseases According to the OIE, Day 1 veterinary graduates should be able to "define and provide examples of 'emerging disease' and 're-emerging disease', detect suspicious signs and report them to the veterinary authority, understand the reasons/ hypotheses to explain the emergence and re-emergence of diseases". The following section contains 8 questions. If you need

#### **Digital**



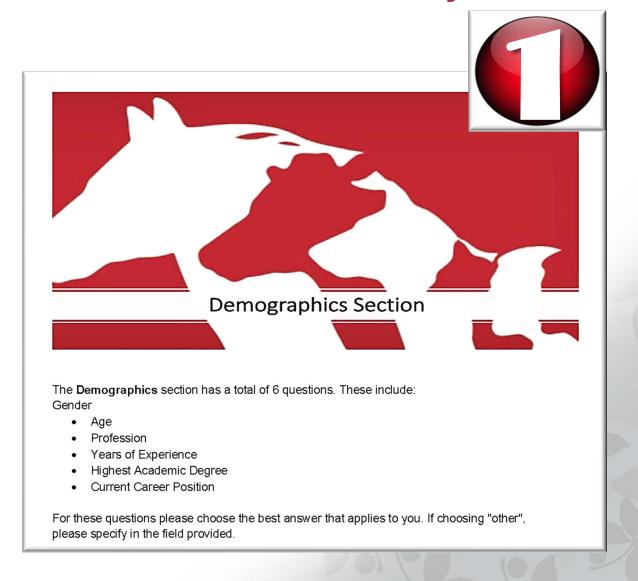


## **Basic Structure of the Evaluation Tool**

### The Evaluation Tool is divided in three major sections

The first section is focused on collecting

Demographic Information







#### The next section covers **OIE Specific Competencies**, which include:

- OIE 2.1: Epidemiology
- OIE 2.2: Transboundary Animal Diseases
- OIE 2.3: Zoonoses (Including Foodborne Diseases)
- OIE 2.4: Emerging and Re-emerging Diseases
- OIE 2.5: Disease Prevention and Control Programmes
- · OIE 2.6: Basic Food Hygiene
- OIE 2.7: Veterinary Products
- OIE 2.8: Animal Welfare
- OIE 2.9: Veterinary Legislation and Ethics
- OIE 2.10: General Certification Procedures
- OIE 2.11: Communication Skills

# Section 2 is focused on the OIE Specific Competencies

# Section 3 is focused on the OIE Advanced Competencies



#### This section covers **OIE Advanced Competencies**, which include:

- OIE 3.1: Organisation of Veterinary Services
- OIE 3.2: Inspection and Certification Procedures
- OIE 3.3: Managment of Contagious Disease
- OIE 3.4: Advanced Food Hygiene
- OIE 3.5: Application of Risk Analysis
- OIE 3.6: Research
- OIE 3.7: International Trade Framework
- OIE 3.8: Administration and Managment

Organisation Mondiale de la Santé Animale

World Organisation for Animal Health Organización Mundial de Sanidad Animal



May 2012



OIE recommendations on the Competencies of graduating veterinarians ('Day 1 graduates') to assure National Veterinary Services of quality



#### **Specific competencies**

- 2.1 Epidemiology
- 2.2 Transboundary animal diseases
- 2.3 Zoonoses (including food borne diseases)
- 2.4 Emerging and re-emerging diseases
- 2.5 Disease prevention and control programmes
- 2.6 Food hygiene
- 2.7 Veterinary products
- 2.8 Animal welfare
- 2.9 Veterinary legislation and ethics
- 2.10 General certification procedures
- 2.11 Communication skills

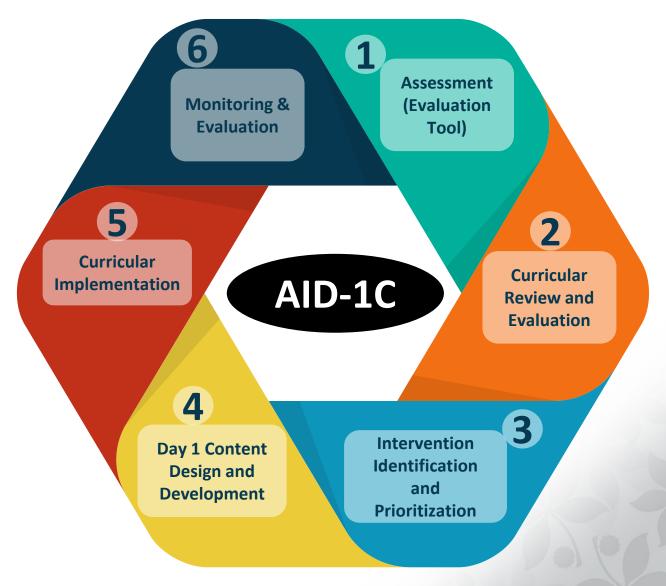
#### **Advanced competencies**

- 3.1. Organisation of Veterinary Services
- 3.2. Inspection and certification procedures
- 3.3. Management of contagious disease
- 3.4. Food hygiene
- 3.5. Application of risk analysis
- 3.6. Research
- 3.7. International trade framework
- 3.8. Administration and management



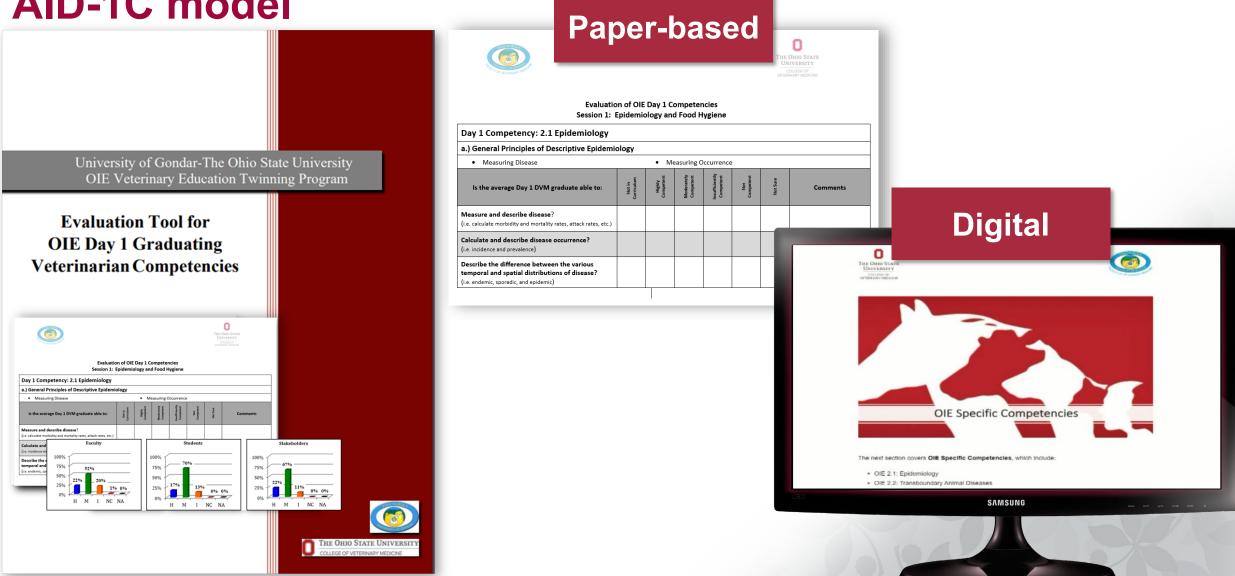
## How the is Evaluation Tool used in the Curricular Assessment?

Assessment and Implementation of OIE Day 1 Competencies AID-1C model



**Assessment and Implementation of OIE Day 1 Competencies** 

AID-1C model



#### **Assessment Workshop – Objective & Purpose**

#### **Objective:**

Perform a self-evaluation of the level of proficiency of recent veterinary graduates in your institution regarding OIE Day 1 Competencies

#### Purpose:

To identify potential gaps in the Veterinary Curriculum









#### OIE Day 1 Competencies for Review During each Session

Session 1: Epidemiology and Food Hygiene	Session 2: Infectious Diseases	Session 3: Regulatory Medicine	Session 4: General Topics
2.1 Epidemiology	2.2 Transboundary Animal Diseases	2.9 Vet Legislation and Ethics	2.8 Animal Welfare
2.6 Basic Food Hygiene	2.3 Zoonosis (including Food Borne Diseases)	2.10 General Certification	2.11 Communication Skills
2.7 Veterinary Products	2.4 Emerging and Re- Emerging Diseases	3.2 Inspection and Certification Procedures	3.8 Administration and Management
3.4 Advance Food Hygiene	2.5 Disease Prevention and Control Programmes	3.1 Organization of Vet Services	3.6 Research
	3.3 Management of Contagious Diseases	3.7 International Trade Framework	3.5 Risk Analysis

#### **Faculty**



#### **Faculty**



#### **Stakeholders**



- ✓ Government Officials
- ✓ Private Industry
- ✓ Veterinary Companies
- ✓ Pharmaceutical Comp.
- ✓ Veterinary Associations
- ✓ Intergovernmental Org.
- √ Relevant NGOs



## **Current Students**

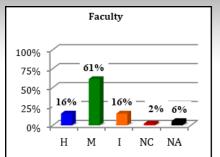


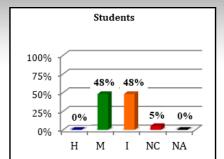
Current + Recent Graduates

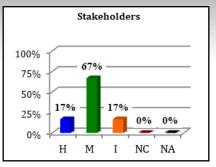




Overall Assessment of 2.2 Transboundary
Animal Diseases (TADs) Competency ranked
from High [H], Moderate [M], Insufficient [I],
Not-Competent [NC], or Not in the Curriculum
[NA] by faculty, students and stakeholders



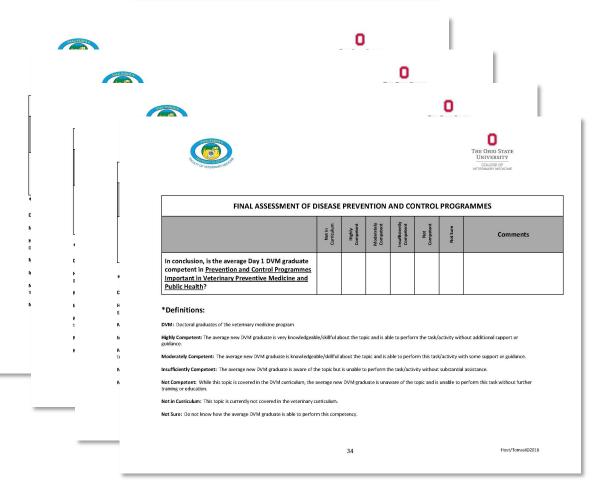






#### **Assessment Workshop – Format / Dynamics**

#### Paper-based



#### **Digital**



#### **Assessment Workshop – Format / Dynamics**

Segment 4:

3.3 Management of
Contagious Diseases
10 Assessment Topics
3.4 Advance
Food Hygiene
6 Assessment Topics
3.5 Application of
Risk Analysis
4 Assessment Topics
3.6 Research
11 Assessment Topics

3.7 International
Trade Framework
7 Assessment Topics

3.8 Administration

and Management

4 Assessment Topics



#### **General Assembly**

	Segment 1:	Segment 2:	Segment 3:
	Demographics	2.4 Emerging and Re-Emerging Diseases 7 Assessment Topics	2.8 Animal Welfare 11 Assessment Topics
	2.1 Epidemiology 11 Assessment Topics	2.5 Disease Prevention and Control Programmes 9 Assessment Topics	2.9 Veterinary Legislation and Ethics 6 Assessment Topics
	2.2 Transboundary Animal Diseases 20 Assessment Topics	2.6 Basic Food Hygiene 10 AssessmentTopics	2.10 General Certification 2 Assessment Topics
	2.3 Zoonosis (including Food Borne Diseases) 13 Assessment Topics	2.7 Veterinary Products 11 Assessment Topics	2.11 Communication Skills 3 Assessment Topics
			3.1 Organization of Veterinary Services 8 Assessment Topics
			3.2 Inspection and Certification Procedures for Exportation 3 Assessment Topics
A			
Y	THE PARTY OF THE PARTY.		
•			

#### **Digital**

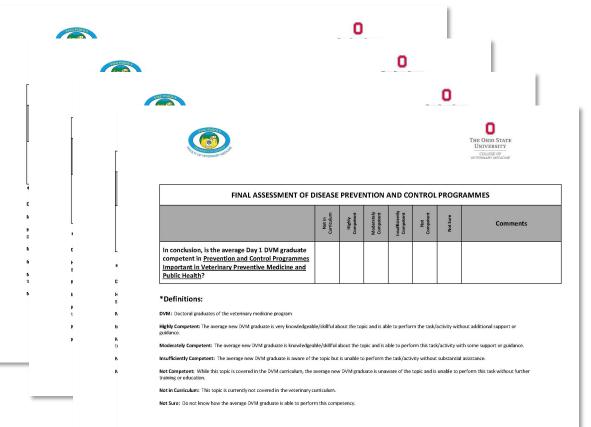


#### **Assessment Workshop – Format / Dynamics**

Hoet/Tomasi@2016



#### Paper-based



#### **Working Groups**

	Session 1	Session 2	Session 3	Session 4
Group 1	2.1 Epidemiology	2.2 Transboundary Animal Diseases	2.9 Vet Legislation &     Ethics     3.1 Veterinary Services	2.8 Animal Welfare
Group 2	2.1 Epidemiology	2.2 Transboundary Animal Diseases	2.9 Vet Legislation &     Ethics     3.1 Veterinary Services	2.8 Animal Welfare
Group 3	2.1 Epidemiology	2.3 Zoonosis (including Foodborne Diseases)	2.9 Vet Legislation & Ethics     3.1 Veterinary Services	2.11 Communication Skills  3.8 Administration and Management
Group 4	2.6 Basic Food Hygiene	2.3 Zoonosis (including Foodborne Diseases)	2.10 General Certification 3.2 Inspection & Certification	2.11 Communication Skills  3.8 Administration and Management
Group 5	2.6 Basic Food Hygiene	2.4 Emerging and     Reemerging Diseases     2.5 Prev. & Control Prog.	2.10 General Certification  3.2 Inspection & Certification	2.11 Communication Skills 3.8 Administration and Management
Group 6	2.6 Basic Food Hygiene	2.4 Emerging Diseases 2.5 Prev. & Control Prog.	2.10 General Certification 3.2 Inspection & C	3.5 Risk Analysis
Group 7	2.7 Veterinary Products 3.4 Advance Food Hyg.	2.4 Emerging Diseases 2.5 Prev. & Control Prog.	3.7 In	sis
Group 8	2.7 Veterinary Products 3.4 Advance Food Hyg.	3.3 Management of Contagious Diseases	3.7 In	sis
Group 9	2.7 Veterinary Products 3.4 Advance Food Hyg.	3.3 Management of Contagious Diseases		

## Database Generation And Results Formatting

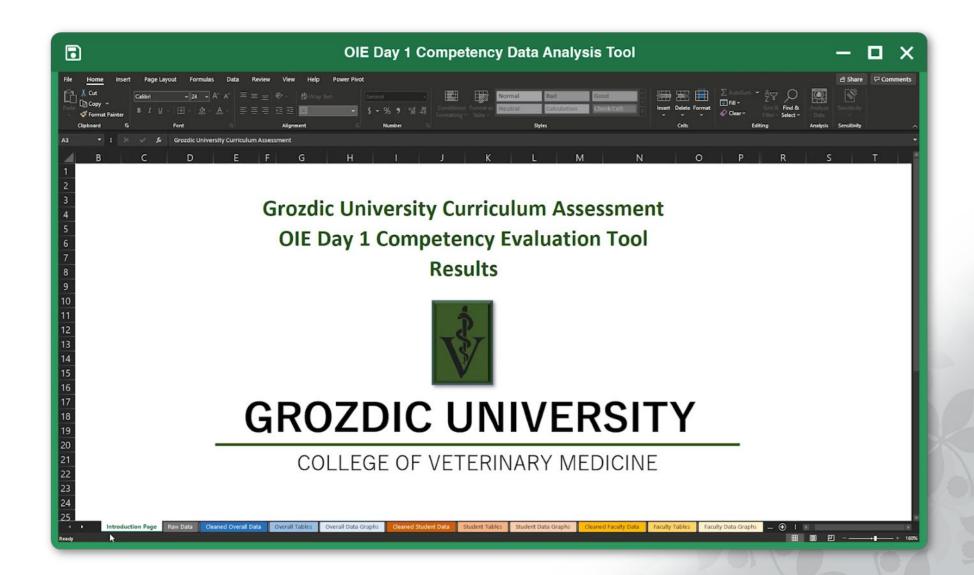
How will the information be organized and pre-analyzed?

How will I recieve the results of the assessments?

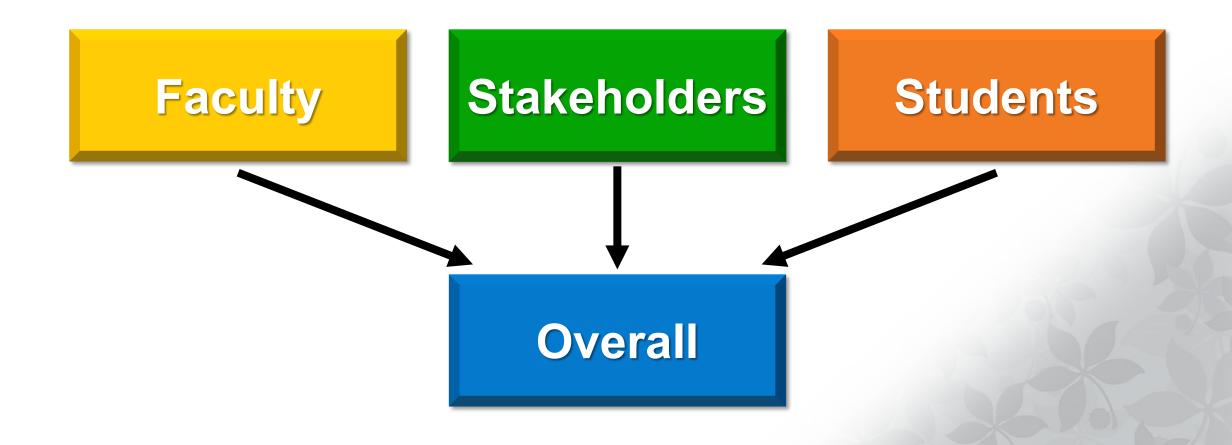
How do we move from evaluation to actionable items to improve our curriculum?

## Step 1

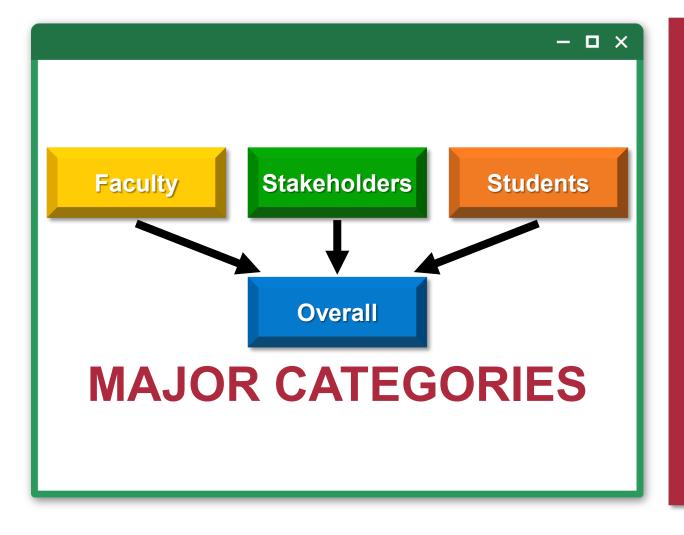
### Database Generation



## Step 2 Data Organization and Categorization



### **Step 2** Data Organization and Categorization



## When you conduct your curricular evaluation:

- Strive to include major participants from each major category
- The more individuals and professionals you include in your assessment, the better clarity and quality your evaluation will be

## **Step 3** Graphic Representation

P = Proficient NP = Not Proficient

	2.6d 2.6 Final												
Is the average Day 1 DVM graduate able to: - 8.  Coordinate the integration between animal health controls and veterinary public health by combining the role of the veterinarian with physicians, public health practitioners, and risk analysts to ensure safe food sources?		to: - 9. Reco safety inspe from farm to	s the average Day 1 DVM graduate able to: - 9. Recognize and integrated food safety inspection services and agencies from farm to fork across various animal production systems?			Day 1 DVM grad I the role of vet fessionals in foo	erinarians and	Is the average Day 1 DVM graduate able to: 11. In conclusion, is the average Day 1 DVM graduate competent in Food Hygiene?					
NP	Frequency	Percentage	NP	Frequency	Percentage	Р	Frequency	Percentage	P	Frequency	Percentage		
NA	1	2.22%	NA	0	0.00%	NA	0	0.00%	NA	0	0.00%		
Н	3	6.67%	Н	2	4.44%	Н	15	33.33%	Н	3	6.67%		
M	21	46.67%	M	24	53.33%	M	22	48.89%	M	30	66.67%		
I	11	24.44%		12	26.67%	I	5	11.11%	I	8	17.78%		
NC	4	8.89%	NC	3	6.67%	NC	1	2.22%	NC	1	2.22%		
NS	3	6.67%	NS	2	4.44%	NS	0	0.00%	NS	1	2.22%		
Missing	2	4.44%	Missing	2	4.44%	Missing	2	4.44%	Missing	2	4.44%		
Total	45	100.00%	Total	45	100.00%	Total	45	100.00%	Total	45	100.00%		

NA = Not in Curriculum
 H = Highly Competent
 M = Moderately Competent
 I = Insufficiently Competent
 NC = Not Competent

## Step 3 Graphic Representation

Is the average Day 1 DVM graduate able to: 10. Understand the role of veterinarians and
other professionals in food safety?

Р	Frequency	Percentage	
NA	0	0.00%	
Н	15	33.33%	
M	22	48.89%	
I	5	11.11%	
NC	1	2.22%	
NS	0	0.00%	
Missing	2	4.44%	
Total	45	100.00%	

P = Proficient NP = Not Proficient

33.33% + 48.89% = 82.22% \PROFICIENT

NA = Not in Curriculum
 H = Highly Competent
 M = Moderately Competent
 I = Insufficiently Competent
 NC = Not Competent

## Step 3 Graphic Representation

<b>3</b>			OIE Da	ay 1 Compe	etency Data Analy	ysis Tool		-	- 🗆 X
farm food	safety practices to e	te able to: - 1. Assess on- ensure the safety and in different production	foodborne pathogens?			(i.e. identifica pharmaceutica killing the floor	is the average co (i.e. carcass carcasses, fa		
P	Frequency	Percentage	NP	Frequency	Percentage	P	Frequency	Percentage	NP:
NA	0	0.00%	NA	0	0.00%	NA	0	0.00%	NA
Н	7	15.56%	Н	6	13.33%	Н	11	24.44%	Н
M	26	57.78%	M	25	55.56%	М	26	57.78%	M
1	8	17.78%		11	24.44%	1	3	6.67%	1
NC	2	4.44%	NC	0	0.00%	NC	3	6.67%	NC
NS	0	0.00%	NS	1	2.22%	NS	0	0.00%	NS
Missing	2	4.44%	Missing	2	4.44%	Missing	2	4.44%	Missing
Total	45	100.00%	Total	45	100.00%	Total	45	100.00%	Total
							2.7a		
Differentiate pharmacokir	and the same of th	outes of administration, of action, efficacy, and	use veto antimicrobia vaccines, ar			Is the average Day 1 DVM graduate able to: - 3. Manage and use cold chain or other storage methods of drug and biological products?			Is the ave Knowledgeabl
P	Frequency	Percentage	P	Frequency	Percentage	P	Frequency	Percentage	NP.
NA	0	0.00%	NA	0	0.00%	NA	0	0.00%	NA
Н	5	11.11%	Н	4	8.89%	Н	12	26.67%	Н
M	27	60.00%	M	29	64.44%	М	20	44.44%	М
1	11	24.44%	1	9	20.00%	1	11	24.44%	1
NC	0	0.00%	NC	1	2.22%	NC	0	0.00%	NC
NS	0	0.00%	NS	0	0.00%	NS	0	0.00%	NS
▶ Ir	ntroduction Page	Raw Data Cleaned	Overall Data	Overall Tabl	es Overall Data Grapi	hs Cleaned	Student Data	Student Tables Stud	ent Data Graphs

## Step 4 File Submission

### We will send you:

- Your complete database
- An organized summary of your data by participant type involved in the assessment
- Tables and graphs for each competency, to visualize results by topics, themes, and participant type

University of Gondar The Ohio State University

**OIE Veterinary Education** Twinning Program





University of Gondar, Faculty of Veterinary Medicine **Curriculum Mapping and OIE Day-1 Competency Evaluation Report** 





#### Specific Competencies:

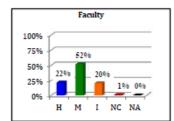
#### OIE Day 1 Competency: 2.1 Epidemiology

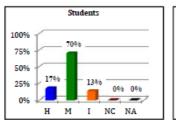
An understanding of epidemiology will allow veterinarians to study the factors that affect the health of animal populations and use this information to make scientifically sound judgments for preventive medicine and veterinary public health. To be competent in epidemiology, a new veterinary graduate needs to grasp the general principles of descriptive epidemiology including measuring and describing disease occurrence and spatial distributions. Day 1 veterinary graduates should be aware of the disease control applications of epidemiology such as disease surveillance, evaluating and interpreting screening or diagnostic tests, and understanding risk factors. Lastly, a veterinarian competent in epidemiology should know the steps of a basic outbreak investigation.

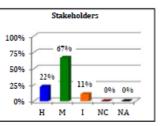
#### Results:

 More than 73% of the faculty, students, and stakeholders considered the average Day 1 University of Gondar DVM graduate to be competent (highly or moderate competent) in epidemiology based on the current needs of the country.

Figure 1: Overall Assessment of 2.1 Epidemiology Competency ranked from High [H], Moderate [M], Insufficient [I], Not-Competent [NC], or Not in the Curriculum [NA] by faculty, students, and stakeholders.

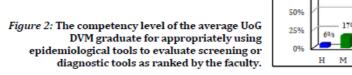






NC NA

 Nevertheless, 77.8% of the faculty still estimate that the average UoG DVM graduate is insufficiently competent using epidemiological in tools to evaluate screening/diagnostic tests. Epidemiological Tools



13

University of Gondar The Ohio State University

OIE Veterinary Education Twinning Program





University of Gondar, Faculty of Veterinary Medicine Curriculum Mapping and OIE Day-1 Competency Evaluation Report



world organisation for animal Health
Protecting animals, preserving our future

Create an <u>ACTION PLAN</u> to address identified deficiencies in regards to OIE Day-1 Competencies

University of Gondar The Ohio State University

OIE Veterinary Education Twinning Program





**Twinning Action Plan** 







You can then
perform your own
self-assessment at
your Veterinary
Education
Establishment









Armando E. Hoet, DVM, PhD, DACVPM
Director, Veterinary Public Health Program
Hoet.1@osu.edu