

University of Gondar  
The Ohio State University



**University of Gondar, Faculty of Veterinary Medicine  
OIE Day-1 Competency Evaluation Report:  
4-year Mid-Program Analysis & Online Evaluation  
Tool Performance Test (2019)**



**WORLD ORGANISATION FOR ANIMAL HEALTH**  
*Protecting animals, preserving our future*

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## Section I

# 4 Year Interim OIE Day One Competency Evaluation

## Introduction:

As a follow-up to the faculty retreat held in 2015 for the start of the World Organization for Animal Health's Veterinary Twinning Program between the University of Gondar (UoG) and The Ohio State University (OSU) a second, interim evaluation to use as a reference. The goal of this project was to carry out a follow up interim evaluation of the perceived competency of UoG DVM graduates in the OIE Day One Competencies. Like the previous evaluation in 2015 a collection of faculty, students, and recent graduates as well as stakeholders were all enlisted to take the evaluation tool. Unlike the previous year which included faculty members from a variety of disciplines in the UoG's veterinary college, only faculty that taught concepts pertaining to the OIE competencies were asked to participate in 2019. In addition, the overall sample size was smaller (N= x) compared to the previous year's evaluation (N=y). The 2015 report can be found here in Appendix B.

As part of the Twinning Program OSU and UoG have worked together to evaluate UoG's DVM curriculum and fill in any gaps that may exist to ensure newly graduated DVM students are fully prepared to participate in their countries National Veterinary Services. To do this faculty from both universities sat down in 2015 and did a full analysis of UoG's DVM curriculum, identifying strengths, weaknesses, and moving around the times some materials were introduced. In addition, OSU in partner with Iowa State University have created a variety of lessons, activities, videos, and other educational material to assist UoG with filling out their DVM curriculum to meet OIE standards.

Though this information collected in this evaluation is helpful to track the trajectory of UoG's progress, it will be several more years until the full effects of the curriculum alterations are seen. Tables showing a general overview of the data collected as part of the 2019 evaluation are displayed followed by a more in-depth analysis of each competency section can be seen below.

## Methodology:

To better lay out the expectations for graduating veterinarians the OIE created a set of Day 1 Competencies that all graduating veterinary students should be competent in upon graduation. These competencies are meant to ensure that all newly graduated veterinary professionals can not only provide optimal animal care, but also support their Country's National Veterinary Services. To assess the UoG's DVM graduates an Evaluation Tool was designed to collect and analyze UoG's faculty, recent graduates, and stakeholder's perception of OIE's Day 1 Competencies as they pertain to newly graduated veterinary students. This evaluation tool consists of 19 competencies in total, 11 of which are specific while the other 8 are advanced. Guidelines for the expectation in each competency were created using examples and definitions to help those filling out the Evaluation Tool to ensure proper assessment of each competency from highly competent to insufficiently or not competent.

The goal of this 2-year post program implementation evaluation was to see how the perception of competency has developed since its implementation of curriculum changes. It is important to note that no significant changes in competency perception was expected as the full effect of curriculum changes will not be seen until 2022 when the first class who completed revised curriculum graduate. The 2019 evaluation was split into two days, with day 1 consisting of students and recent graduates, which was defined as veterinarians who had graduated from UoG's veterinary program within the last two years. Day 2 consisted of faculty members and stakeholders completing the evaluation. For faculty to meet the criteria to participate in this evaluation they had to currently teach courses directly related to the OIE Day-1 competencies. Stakeholders included individuals who regularly work with or hire veterinary graduates from UoG.

On both days Dr. Seleshe Nigatu, the public health director of the veterinary program at UoG and the moderator for this evaluation, started the day with a presentation about the OIE Twinning Program as well as a recap of the activities that have been carried out thus far. In addition, Dr. Seleshe walked groups through how to properly read and interpret each question to assess the competencies correctly. To do this Dr. Seleshe provided specific examples on the definition of each competency rating from "highly competent" to "not complement" as well as missing and "not in the curriculum" and "not sure". Each competency was defined as follows: "highly competent" refers to a new DVM graduate that is very knowledgeable or skillful about the topic of interest and can perform the defined task or activity without guidance. "Moderately competent" refers to graduates that are knowledgeable but provide more oversight and guidance to perform specific tasks. Newly graduated DVM students who know the generals of a task or skill but require a significant amount of support in order to complete the activity are considered "insufficiently competent" and those who have no knowledge of the topic or are unable to perform a task or skill at all are considered "not competent". If a topic is not currently covered by the curriculum, or the evaluator is unsure, evaluators should select "not sure". Once Dr. Seleshe had completed his presentation time was set aside to answer any questions participants had regarding the evaluation too. Once all questions and concerns were addressed participants were asked to open the online evaluation tool on their computers, tablets, or smartphones. Participants were also given a hard copy of the evaluation tool and asked to fill them out simultaneously in case any errors occurred with the online tool.

The evaluation tool was broken into four sections of similar or equal time (approx. 1.5 hours) with breaks between each section. Participants were given 2-3 minutes to answer each question and facilitators were available throughout the program to answer any questions in real time. This process was repeated on both days for both the student group and the faculty/stakeholder group. Once evaluations were complete a short discussion led by Dr. Armando Hoet and Dr. Amanda Berrian from The Ohio State University College of Veterinary Preventative Medicine facilitated a short discussion where participants could talk bring up any comments, concerns, or questions they may have about the new online evaluation tool. This secondary discussion was carried out so that participants could provide their insight on the online evaluation tool and point at things they liked as well as things they felt needed attention or were confusing.

Percentage of Individuals Who Rated University of Gondar DVM Graduates Highly or Moderately Competent Stratified by Group (*Table 1*)

<b>OIE Basic Day One Competencies</b>	<b>Faculty (N=17)</b>	<b>Students (N=11)</b>	<b>Stakeholders (N=16)</b>
<b>Epidemiology (2.1)</b>	94.12%	54.55%	62.50%
<b>Transboundary Disease (2.2)</b>	76.70%	63.34%	56.25%
<b>Zoonoses (2.3)</b>	94.12%	54.55%	93.75%
<b>Emerging and Re-emerging Diseases (2.4)</b>	76.47%	45.45%	62.50%
<b>Disease Prevention and Control Programs (2.5)</b>	70.59%	36.36%	50%
<b>Food Hygiene (2.6)</b>	76.4%	72.73%	75%
<b>Veterinary Products (2.7)</b>	70.59%	54.55%	68.75%
<b>Animal Welfare (2.8)</b>	52.94%	45.55%	25%
<b>Veterinary Legislation and Ethics (2.9)</b>	76.47%	36.36%	43.75%
<b>General Certification Procedures (2.10)</b>	41.18%	27.27%	43.75%
<b>Communication Skills (2.11)</b>	64.71%	45.45%	75%
<b>OIE Advance Day One Competencies</b>	<b>Faculty (N=17)</b>	<b>Students (N=11)</b>	<b>Stakeholders (N=16)</b>
<b>Organization of Veterinary Services (3.1)</b>	47.06%	45.45%	43.75%
<b>Inspection and Certification Procedures (3.2)</b>	58.82%	36.36%	43.75%
<b>Management of Contagious Diseases (3.3)</b>	76.47%	54.55%	56.25%
<b>Advanced Food Hygiene (3.4)</b>	70.59%	63.64%	56.25%
<b>Application of Risk Analysis (3.5)</b>	47.06%	27.27%	50%
<b>Research (3.6)</b>	29.41%	45.45%	60%
<b>International Trade Framework (3.7)</b>	52.94%	54.55%	18.75%
<b>Administration and Management (3.8)</b>	52.94%	54.55%	37.50%

Comparison of 2017 to 2019 Proficiency Ratings for Each Competency  
(Table 2)

OIE Day-1 Competency	Year		Change from 2015 to 2019
	2015 (N=76)	2019 (N=45)	
<b>General Competencies</b>			
Epidemiology (2.1)	P	P	=
TAD (2.2)	P	NP	↓
Zoonosis (2.3)	P	P	=
Emerging and Re-emerging Disease (2.4)	P	NP	↓
Disease Prevention and Control Programs (2.5)	P	NP	↓
Food Hygiene (2.6)	P	P	
Veterinary Products (2.7)	P	NP	↓
Animal Welfare (2.8)	NP	NP	=
Veterinary Legislation and Ethics (2.9)	NP	NP	=
General Certification Programs (2.10)	P	NP	↓
Communication Skills (2.11)	NP	NP	=
<b>Advanced Competencies</b>	2015 (N=76)	2019 (N=45)	Change from 2015 to 2019
Organization of Veterinary Services (3.1)	NP	NP	=
Inspection and Certification of Procedures for Exportation (3.2)	NP	NP	=
Management of Contagious Disease (3.3)	NP	NP	=
Advanced Food Hygiene (3.4)	NP	NP	=
Application of Risk Analysis (3.5)	NP	NP	=
Research (3.6)	NP	NP	=
International Trade Framework (3.7)	NP	NP	=
Good Management Practices (3.8)	P	NP	↓

NP = Not proficient & P= Proficient

## 10 Highest and 10 Lowest Evaluated Topics (*Table 3 & Table 4*)

*Table 3:* Table showing the highest perceived and the lowest perceived sub-competencies derived from the overall evaluation data

Ten Highest Rated Topics	
Topics	Overall % Perceived H + M*
1. List and describe common and important zoonotic and foodborne pathogens. (2.3- Zoonosis)	100%
2. List the most common routes of transmission for zoonotic and foodborne agents in animal population. (2.3- Zoonosis)	100%
3. Describe the public health implications of TAD in their country. (2.2-TAD)	91%
4. List important animal clinical signs associated with both zoonotic and foodborne disease. (2.3- Zoonosis)	91%
5. Describe the difference between the various temporal and spatial distribution of disease. (2.1- Epidemiology)	89%
6. List the most common transmission pathway for TAD. (2.2- TAD)	89%
7. Appropriately select a therapeutic tool to prevent and combat zoonotic and foodborne disease. (2.3- Zoonosis)	89%
8. Define animal welfare and describe the different elements or components. (2.8- Animal Welfare)	89%
9. List and describe common and important TAD pathogens. (2.2- TAD)	87%
10. Understand the role of veterinarians and other professionals in food safety. (2.6- Food Hygiene)	82%

\*H + M: Highly Competent and Moderately Competent

*Table 4:* Table showing the highest perceived and the lowest perceived sub-competencies derived from the overall evaluation data.

Ten Lowest Rated Topics	
Topics	Overall % Perceived H + M*
1. Aware of the concept of translational research. (3.6- Research)	18%
2. Acquainted with the WTO Sanitary and Phytosanitary Measures. (3.7- International Trade Framework)	24%
3. Appropriately complete health certificates and other transport or mobilization paperwork based on national regulations. (2.10- General Certification Procedures)	27%
4. Perform residue testing to ensure that animal products are free of adulterants such as antimicrobials, pesticides, hormones, and metals that would pose risk to human health if consumed. (3.4- Advanced Food Hygiene)	27%
5. Able to research current and reliable information regarding international trade. (3.7- International Trade Framework)	27%
6. Identify Up-to date information regarding changes in local, national, and international standards and regulations. (2.8- Animal Welfare)	31%
7. Recognize the OIE PVS Tol used to evaluate National Veterinary Services. (2.9- Veterinary Legislation and Ethics)	31%
8. Appropriately complete health certificates and related paperwork based on international or national standards and regulations. (3.2- Inspection and Certification Procedures for Exportation)	31%
9. Able to find up-to-date and reliable information on risk analysis. (Application of Risk Analysis)	31%
10. Aware with the Codex Alimentarius Commission (CAC) in developing science-based regulations governing international trade in food products of animal origin. (3.7- International Trade Framework)	31%

\*H + M: Highly Competent and Moderately Competent



# Basic Competencies

## 2.1- Epidemiology

Having a basic understanding of epidemiology allows veterinarians to better understand the factors that negatively effect of animal populations and utilize this information to make judgments from a preventative medicine and veterinary public health lens. To be considered competent in this field veterinary graduates must understand the basics of descriptive epidemiology including being able to measure and describe disease occurrence and spatial distribution. In addition, Day 1 veterinary graduates should be aware of how epidemiology assists in disease control including things like surveillance, understanding risk factors and being able to interpret screenings/ diagnostic tests. Finally, all Day 1 veterinary students should understand the basic principles of an outbreak investigation.

Results:

- Overall, 78% of those who evaluated the UoG veterinary students perceived graduates to be highly to moderately competent in Epidemiology. Below a stratified analysis of perceived competency broken down by group type can be seen (Figure 1).

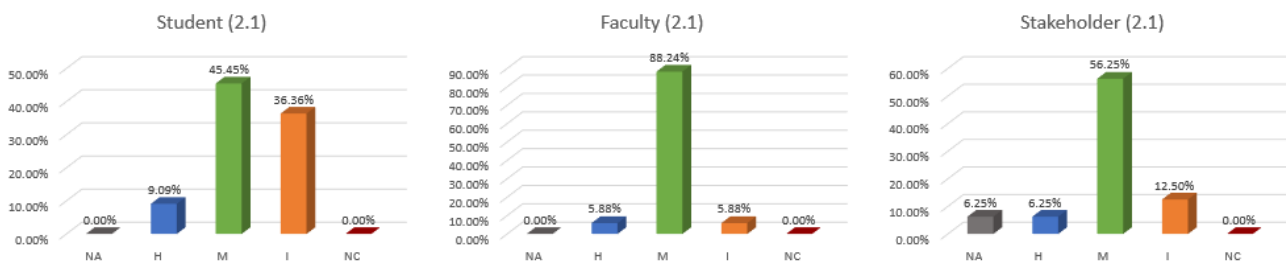


Figure 1: Overall Assessment of 2.1 Epidemiology Competency ranked Not in the Curriculum [NA], High [H], Moderate [H], Insufficient [I], or Not Competent [NC] by faculty, students, and stakeholders.

- Within the epidemiology section 89% of all those who took the evaluation felt that Day 1 graduates were highly or moderately competent in identifying the differences between disease distribution types. (Figure 2)

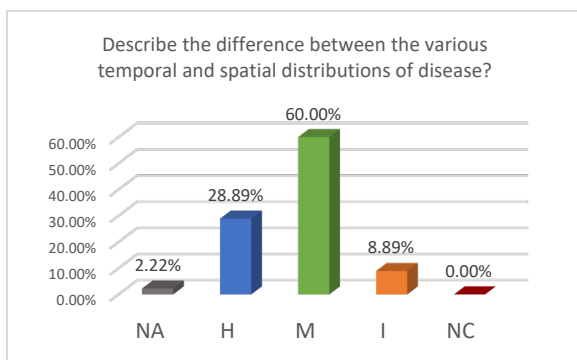


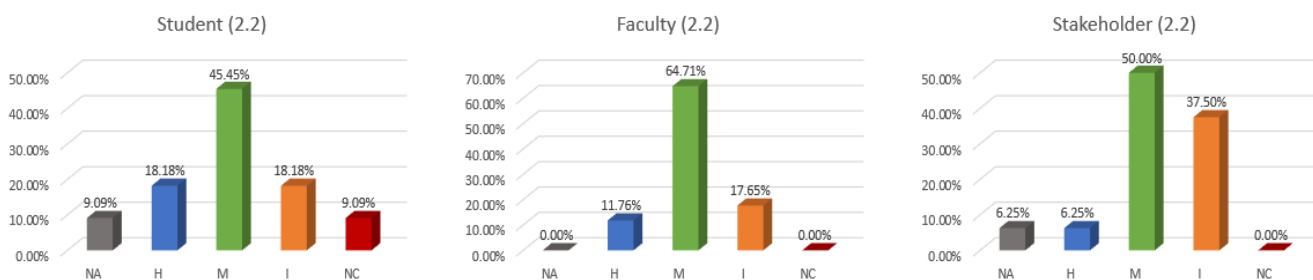
Figure 2: Perceived competency level of the average UoG DVM graduate to describing the difference between the various temporal and spatial distribution disease.

## 2.2- Transboundary Animal Disease

Transboundary animal diseases, (TADs) are diseases that are highly contagious and can spread across national borders at a rapid rate of speed. These diseases can have seriously detrimental impacts on the global economy as well as global public health and need to be well monitored to ensure they are sufficiently monitored and controlled. To be considered competent in TADs Day 1 veterinary graduates should be able to describe important disease as well as the pathogens that cause them and their current global distribution. In addition, these graduates can describe current disease surveillance programs as well as the agencies that monitor the most important TADs as well as how to properly report them.

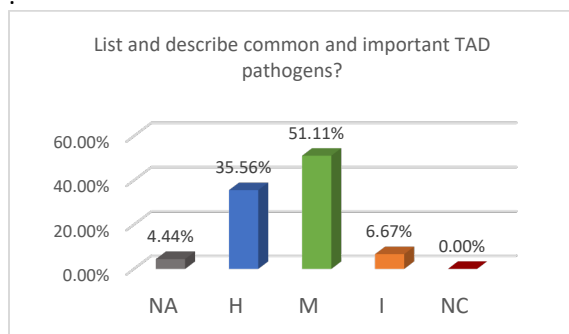
### Results:

- Overall, 67% of those who evaluated the UoG veterinary students perceived graduates to be highly to moderately competent in Transboundary Animal Disease. Below a stratified analysis of perceived competency broken down by group type can be seen (*Figure 3*).

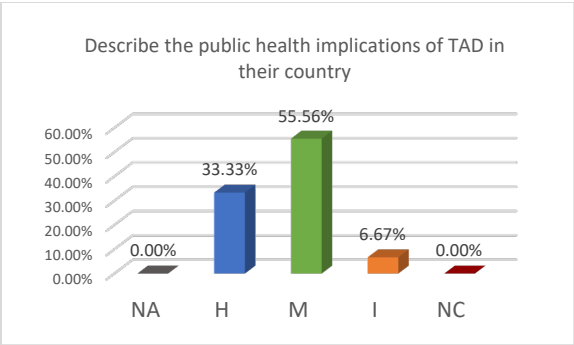


*Figure 3: Overall Assessment of 2.2 Transboundary Animal Diseases (TADs) Competency ranked Not in the Curriculum [NA], High [H], Moderate [H], Insufficient [I], or Not Competent [NC] by faculty, students and stakeholders*

- Receiving some of the highest proficiency ratings in the curriculum, approx. 86% of those who evaluated the curriculum rated veterinary graduates' competency in describing important TAD pathogens high or moderate (*Figure 4*). Veterinary graduates were also thought to be highly competent in describing the public health implications of TAD in their country, with 91% of participants rating them highly or moderately competent (*Figure 5*)



*Figure 4: Overall perceived competency level of the average UoG DVM graduate to describing important TAD pathogens.*



*Figure 5: Overall perceived competency level of average UoG DVM graduates in describing the public health implications of TAD's in their country.*

## 2.3- Zoonoses (including foodborne diseases)

Zoonotic diseases are diseases that are known to or have the potential to be transmitted from one or more animal or animal products to humans. This definition also includes foodborne diseases. Diseases that are zoonotic in nature are a serious potential risk for public health as well as global trade if not well regulated. Competence in this topic include ability to describe common and important pathogens, as well as their route of transmission and what diagnostics would be used to diagnose them. In addition, a competent veterinarian understands the importance of these diseases as they pertain to public health, agriculture, and the economy. Veterinarians who are competent in this area are also able to identify the appropriate national and/or international reporting authorities for surveillance.

### Results:

- Overall, 84% of those who evaluated the UoG veterinary students perceived graduates to be highly to moderately competent in zoonoses, including foodborne disease. Below a stratified analysis of perceived competency broken down by group type can be seen (Figure 6).

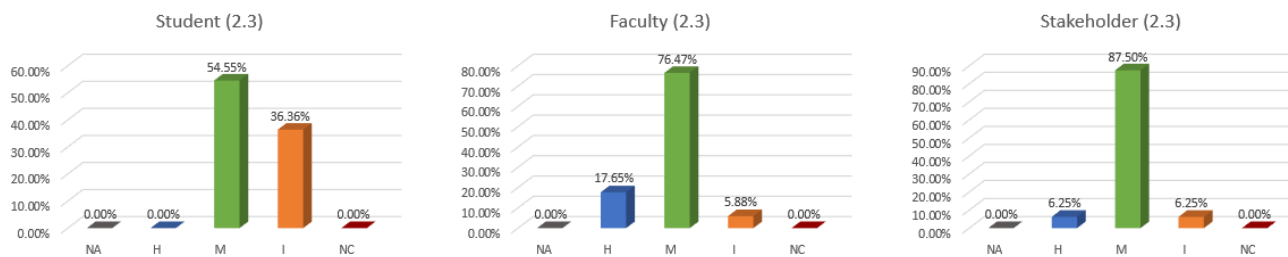


Figure 6: Overall Assessment of 2.3 Zoonoses (including food borne diseases) Competency ranked Not in the Curriculum [NA], High [H], Moderate [H], Insufficient [I], or Not Competent [NC] by faculty, students and stakeholders

- UoG's veterinary graduates received three of their overall highest ratings within this section. Of those who took the evaluation 100% felt that UoG DVM graduates were highly or moderately competent in describing important zoonotic disease (Figure 6), 89% felt that DVM graduates were able to list the most common zoonotic and foodborne agents in animal populations (Figure 7), and 91% felt that DVM graduates were proficient in identifying important clinical signs associated with foodborne and zoonotic disease (Figure 8).

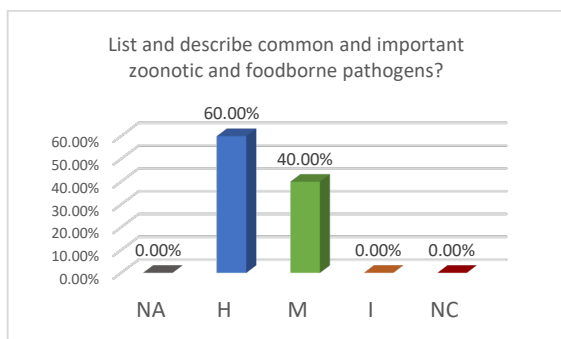
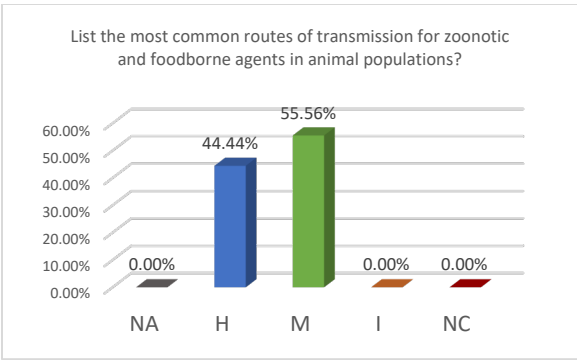
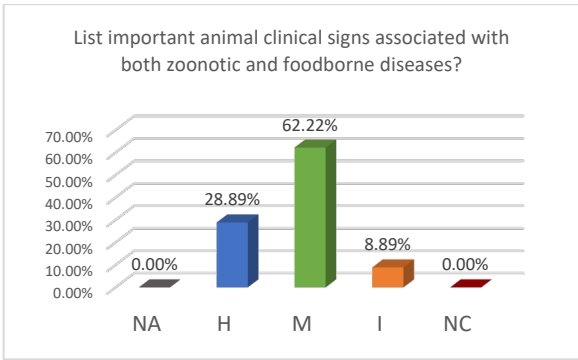


Figure 6: Competency level of average UoG DVM graduates in listing and describing important zoonotic and foodborne ..



*Figure 7: Competency level of average UoG DVM graduates in listing the most common routes of transmission for zoonotic and foodborne agents in animal populations*



*Figure 8: Competency level of UoG graduates in listing important clinical signs associated with zoonotic and foodborne disease*

## 2.4- Emerging and Re-emerging Diseases

Emerging and re-emerging diseases are pathogens that have either not been seen before or that have evolved and/or spread to a different geographic location than they have been previously seen. To be considered competent in this area Day 1 veterinarians must be able to list both common and high-risk pathogens as well as identify the clinical signs associated with these pathogens in an animal population. In addition, veterinarians understand the risk factors that are likely to increase the occurrence of emerging or re-emerging disease outbreak and are aware of the authority any suspected cases should be reported to.

Results:

- Overall, 64% of those who evaluated the UoG veterinary students perceived graduates to be highly to moderately competent in Emerging and Re-emerging Disease. Below a stratified analysis of perceived competency broken down by group type can be seen (*Figure 9*).

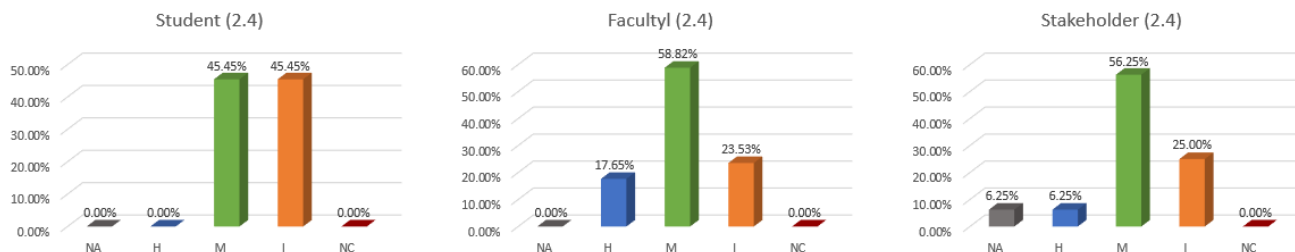
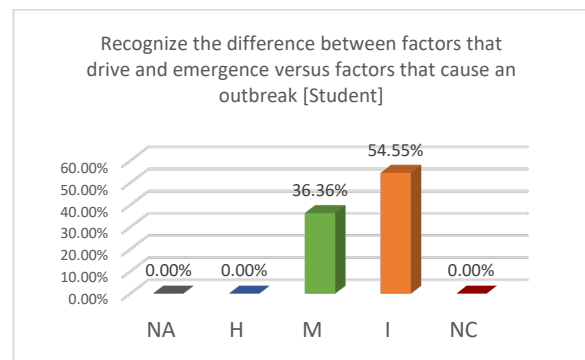


Figure 9: Overall Assessment of 2.4 Emerging and Re-emerging Diseases Competency ranked Not in the Curriculum [NA], High [H], Moderate [H], Insufficient [I], or Not Competent [NC] by faculty, students and stakeholders

- 54% of students and recent graduates who participated in the evaluation felt that UoG veterinary graduates were insufficiently competency in recognizing diggerent factors that can drive the emergence of outbreak (*Figure 10*).

*Figure 10: Perceived competency level of UoG graduates in recognizing the difference between factors that drive emergence of disease v. factors that cause outbreaks*

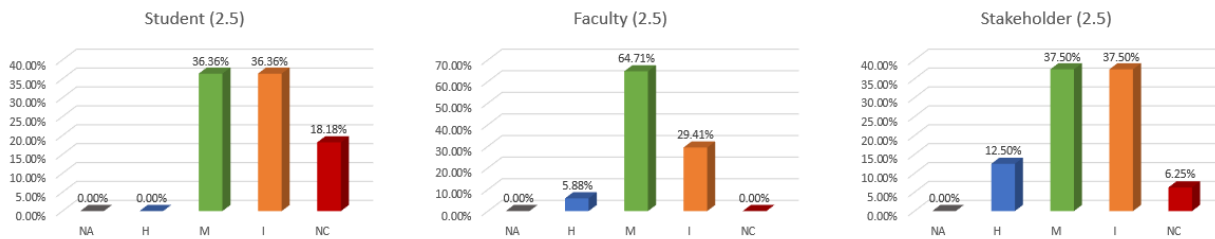


## 2.5- Disease Prevention and Control Programs

Veterinary graduates who are competent in disease prevention and control programs can properly implement preventive measures for a variety of animal populations at various population levels. In addition, graduates can identify proper regulatory authorities in their country as well as describe the current national programs that are in place. Day 1 graduates competent in this area are also able to implement contingency plans to identify and trace exposed animals and preform mass culling when necessary to control disease.

### Results:

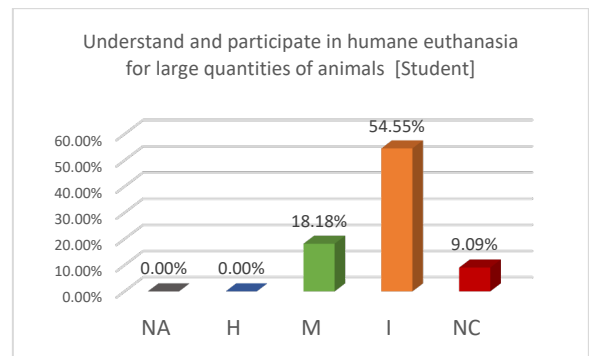
- Overall, 53% of those who evaluated the UoG veterinary students perceived graduates to be highly to moderately competent in Disease Prevention and Control Programs. Below a stratified analysis of perceived competency broken down by group type can be seen (*Figure 11*).

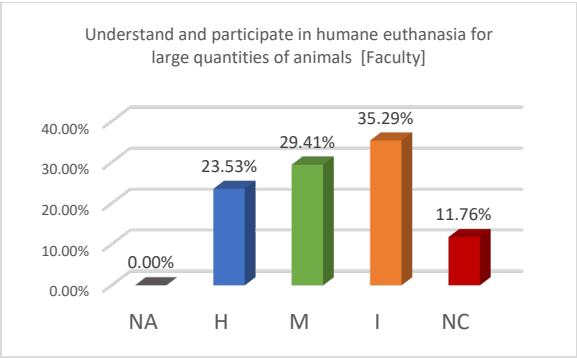


*Figure 11: Overall Assessment of 2.5 Disease Prevention and Control Programs Competency ranked Not in the Curriculum [NA], High [H], Moderate [H], Insufficient [I], or Not Competent [NC] by faculty, students and stakeholders*

- Approximately 64% of students felt that UoG DVM graduates they were insufficiently competent in understanding how to participate in humane euthanasia of large quantities of animals (*Figure 12*). However, 70% faculty felt that UoG DVM graduates were highly to moderately competent in this area (*Figure 13*).

*Figure 12: Student perceived competency level for understanding and participating in humane euthanasia of large quantities*





*Figure 13:* Faculty rated competency level for understanding and participating in humane euthanasia of large quantities of



## 2.6- Food Hygiene

Competency in basic food hygiene requires the understanding of the techniques required to provide safe and wholesome food derived from animals. Recognition of safe preharvest management practices in animal production to reduce the risk of zoonotic foodborne pathogens is also required. In addition, veterinarians must be able to complete *ante mortem* and *postmortem* examinations of animals while also ensuring slaughterhouse is slaughtering animals in a humane way. Finally, veterinarians should have knowledge of good sanitation practices and ways to mitigate the risk of secondary contamination during processing.

### Results:

- Overall, 73% of those who evaluated the UoG veterinary students perceived graduates to be highly to moderately competent in food hygiene. Below a stratified analysis of perceived competency broken down by group type can be seen (Figure 14).

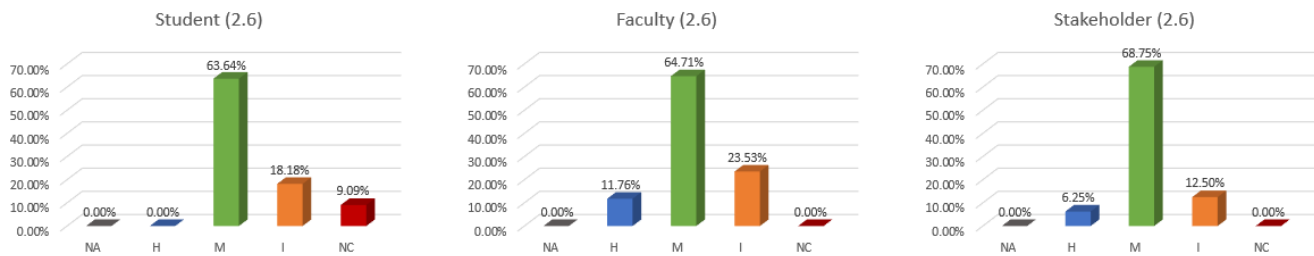


Figure 14: Overall Assessment of 2.6 Food Hygiene Competency ranked from ranked Not in the Curriculum [NA], High [H], Moderate [H], Insufficient [I], or Not Competent [NC] by faculty, students and stakeholders

- 88% Faculty felt that UoG DVM Graduates were highly to moderately competent in understanding the role both veterinarians and other professionals play in food safety (Figure 15).

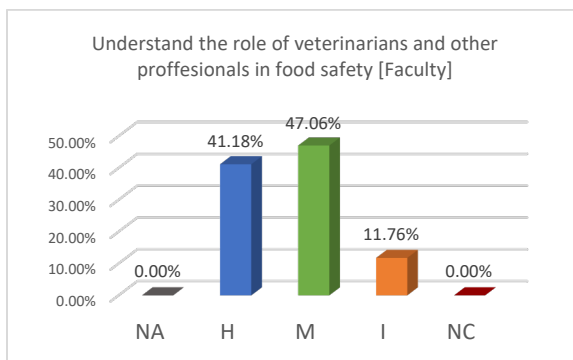


Figure 15: Faculties perceptions of UoG veterinary graduates' level of competency in understanding roles of veterinarians and other professionals in food safety.

## 2.7- Veterinary Products

To be considered competent in this area veterinarians must understand how to properly use, apply, store, and dispose of a variety of products utilized in veterinary medicine including drugs, vaccines, and other biological items. Veterinarians need to understand the mechanisms that can lead to antimicrobial resistance and how antimicrobial use in food animals is associated with the development of antimicrobial resistance among human pathogens. Veterinarians also need to know the drug withdrawal times for food producing animals to prevent residues within the animal products. Finally, veterinarians must be proficient in keeping legible, complete, and current records.

### Results:

- Overall, 67% of those who evaluated the UoG veterinary students perceived graduates to be highly to moderately competent in veterinary products. Below a stratified analysis of perceived competency broken down by group type can be seen (Figure 16).

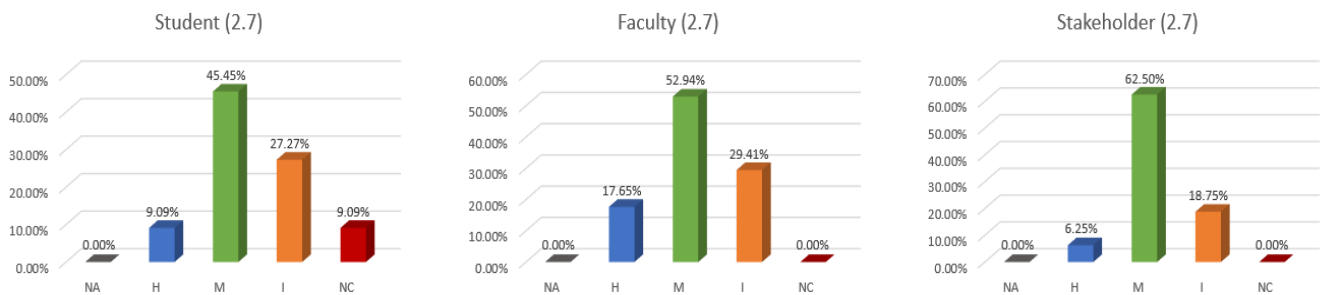
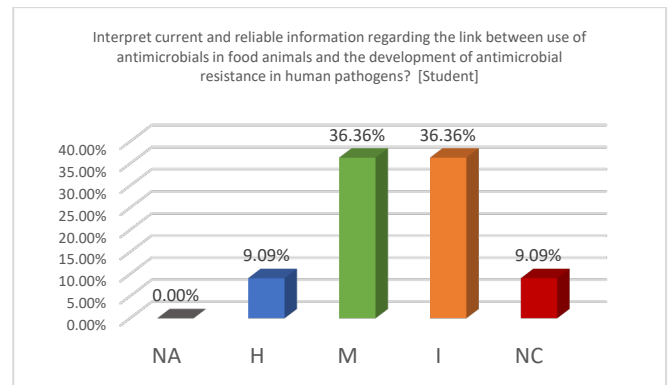


Figure 16: Overall Assessment of 2.7 Veterinary Products Competency ranked from ranked Not in the Curriculum [NA], High [H], Moderate [H], Insufficient [I], or Not Competent [NC] by faculty, students and stakeholders

- Current students as well as recent veterinary graduates were divided on their feelings of competency in interpreting the link between use of antimicrobials in food animals and antimicrobial resistance of human pathogens with 45% feeling that they were highly to moderately competent and 45% feeling that they were insufficiently to not competent in this area (Figure 17).

Figure 17: Competency rating of UoG DVM graduates in interpreting current information on use of antimicrobials in food animals and its relation to antimicrobial resistance in human pathogens.



## 2.8- Animal Welfare

Veterinarians competent in animal welfare can use scientific knowledge to determine the nutrition level, health and general comfort of animals based on their innate behaviors. These veterinarians also understand how important animal welfare is and recognize the scientific and economic implications of animals that are afraid, stressed or in pain during production. In addition, Day 1 graduates should be able to utilize their knowledge to implement corrective actions during production, export, and transportation. New graduates should also be able to explain the importance of animal welfare to owners, producers, and farmers.

Results:

- Overall, 40% of those who evaluated the UoG veterinary students perceived graduates to be highly to moderately competent in animal welfare. Below a stratified analysis of perceived competency broken down by group type can be seen (Figure 18).

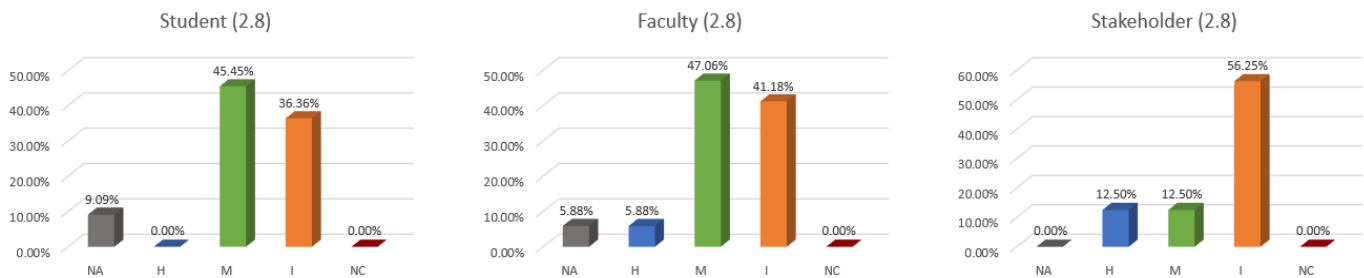


Figure 18: Overall Assessment of 2.8 Animal Welfare Competency ranked Not in the Curriculum [NA], High [H], Moderate [H], Insufficient [I], or Not Competent [NC] by faculty, students, and stakeholders

- Veterinary graduates also received one of the ten highest ratings of competency in defining animal welfare and describe the different elements or components with 88% of all those who took evaluation rating this area highly to moderately competent (Figure 19).

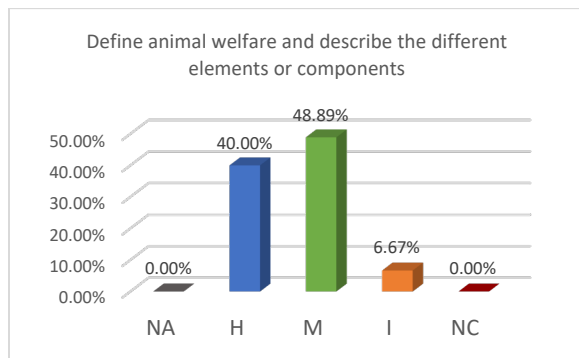
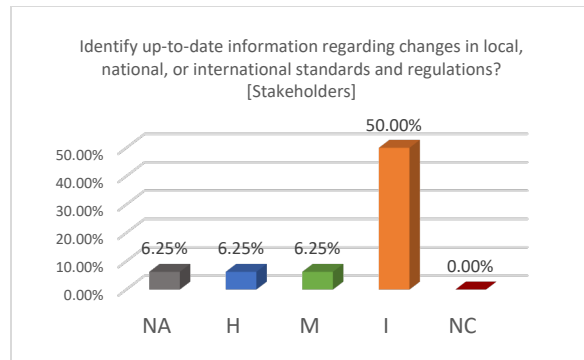


Figure 19: competency rating of UoG DVM graduates in defining animal welfare and describing the different elements or components

- One area that received low proficiency ratings was identifying up to date information on changes in local, national, or international regulations. Only 18% of stakeholders who participated in the evaluation felt that UoG veterinary graduates were highly or moderately competent, and approximately 50% feeling that graduates were insufficiently competent in this area (Figure 20).

*Figure 20: Competency rating of UoG DVM graduates in identifying up-to-date information regarding changes in local, national, or international standards and regulations*

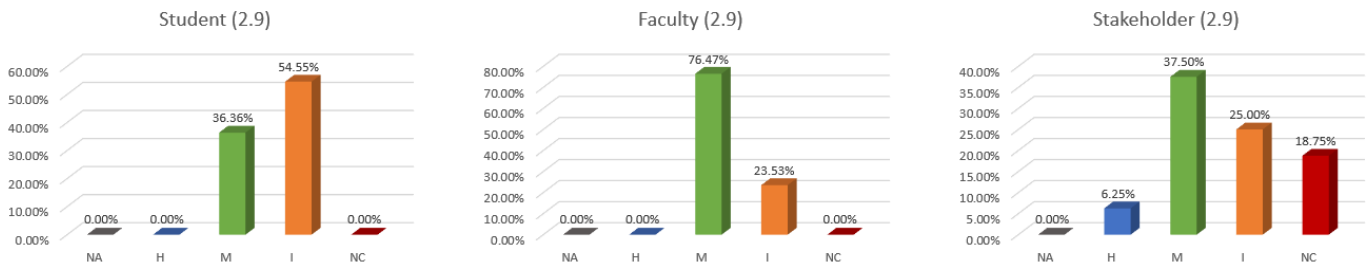


## 2.9- Veterinary Legislation and Ethics

Veterinarians who are competent in veterinary legislation can understand and follow the laws and regulations that are set forth by the bodies that regulate and govern veterinary professionals and ensure a standard level of care. These laws and regulations are set forth to protect animal health, public health, the environment and the economy and day 1 graduates should be able to maintain high professional standards of care as well as good integrity when faced with ethical dilemmas.

Results:

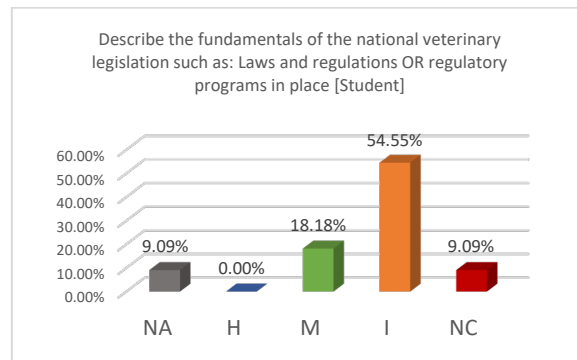
- Overall, 53% of those who evaluated the UoG veterinary students perceived graduates to be highly to moderately competent in understanding veterinary legislation and ethics. Below a stratified analysis of perceived competency broken down by group type can be seen (*Figure 21*).



*Figure 21: Overall Assessment of 2.9 Veterinary Legislation and Ethics Competency* ranked Not in the Curriculum [NA], High [H], Moderate [H], Insufficient [I], or Not Competent [NC] by faculty, students and stakeholders

- While overall 35% of those who evaluated this competency felt that graduates were moderately to highly competent only 18% of students felt that they were highly to moderately competent in describe the fundamentals of the national veterinary legislation such as: Laws and regulations OR regulatory programs in place (*Figure 22*), while 58% of faculty felt that UoG graduates were highly to moderately competent in this area.

*Figure 22: Student competency rating of UoG DVM graduates in describing the fundamentals of the national veterinary legislation.*

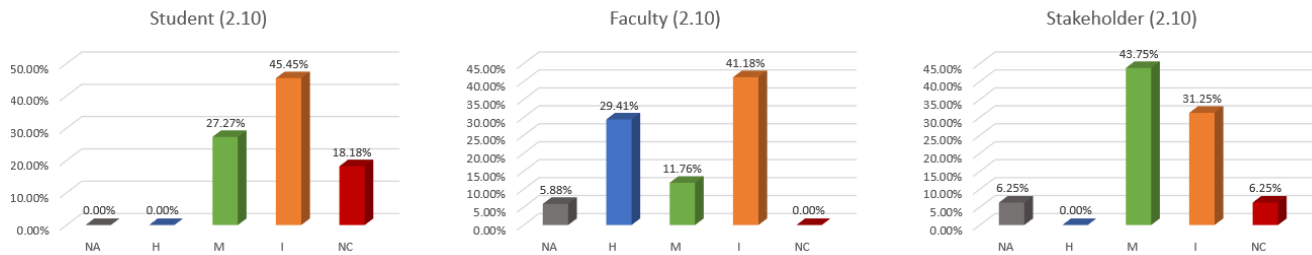


## 2.10- General Certification Procedures

Veterinarians who are competent in general certification procedures can evaluate an animal or animal products for any signs of infectious disease in order to properly complete a health certificate or travel paperwork specific for the national regulations.

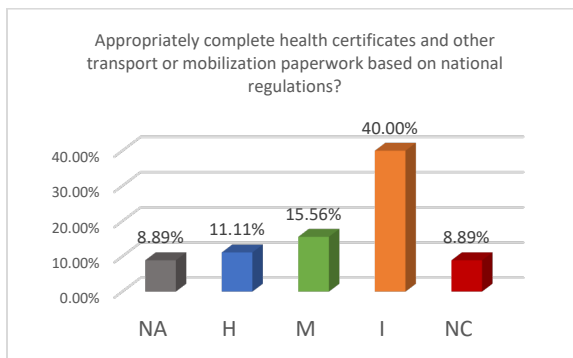
Results:

- Overall, 38% of those who evaluated the UoG veterinary students perceived graduates to be highly to moderately competent in general certification procedures. Below a stratified analysis of perceived competency broken down by group type can be seen (*Figure 23*).



*Figure 23: Overall Assessment of 2.10 General Certification Procedures Competency ranked Not in the Curriculum [NA], High [H], Moderate [H], Insufficient [I], or Not Competent [NC] by faculty, students, and stakeholders*

- Overall, only 25% of those who evaluated the UoG Day 1 graduates felt that they were appropriately able to complete health certificates and other important transportation paperwork according to national regulations (*Figure 24*). 72% of students and new graduates rated themselves as insufficiently or not competent in this area.



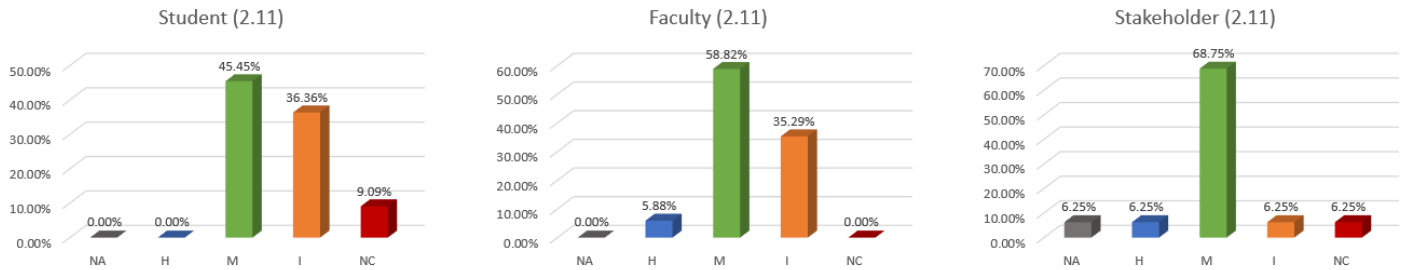
*Figure 24: Overall perceived competency of UoG veterinary graduates' ability to appropriately complete health certificates and other transport documents according to national regulations*

## 2.11- Communication Skills

Veterinary graduates who are competent in this area can provide both written and verbal information regarding veterinary and scientific way in a clear and concise manner to a variety of audiences.

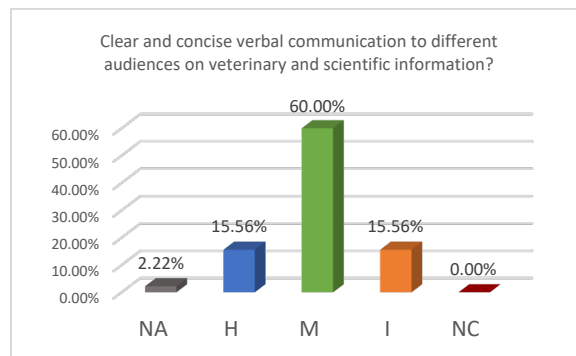
Results:

- Overall, 64% of those who evaluated the UoG veterinary students perceived graduates to have high to moderately competent communication skills. Below a stratified analysis of perceived competency broken down by group type can be seen (*Figure 25*).



*Figure 25:* Overall Assessment of 2.11 Communication Skills Competency ranked Not in the Curriculum [NA], High [H], Moderate [H], Insufficient [I], or Not Competent [NC] by faculty, students, and stakeholders

- Within this competency veterinary graduates' ability to verbally communicate in a clear and concise manner to a variety of audiences was rated the highest with approximately 75% of participants rating students highly or moderately competent (*Figure 26*). However, when stratified only 68% of stakeholders feel that day one graduates from UoG can communicate to a variety of audiences in this way.



*Figure 26:* Overall perceived competency of UoG veterinary graduates' ability to communicate to a variety of audiences clearly and concisely verbally.

# Advanced Competencies

## 3.1- Organization of Veterinary Services

Competency in this area entails an understanding of the structure of both governmental and nongovernmental agencies that implement OIE standards and recommendations described within the *Terrestrial and Aquatic Animal Health Codes*. In addition, veterinarians understand the importance government veterinary services play in protecting agriculture, economy, public health, and the laws and regulations a specific authority provides. A good understanding of the importance of veterinary services supports strong relationships between private and public sector veterinarians.

Results:

- Overall, 44% of those who evaluated the UoG veterinary students perceived graduates to be highly to moderately competent in organization of veterinary services. Below a stratified analysis of perceived competency broken down by group type can be seen (Figure 27).

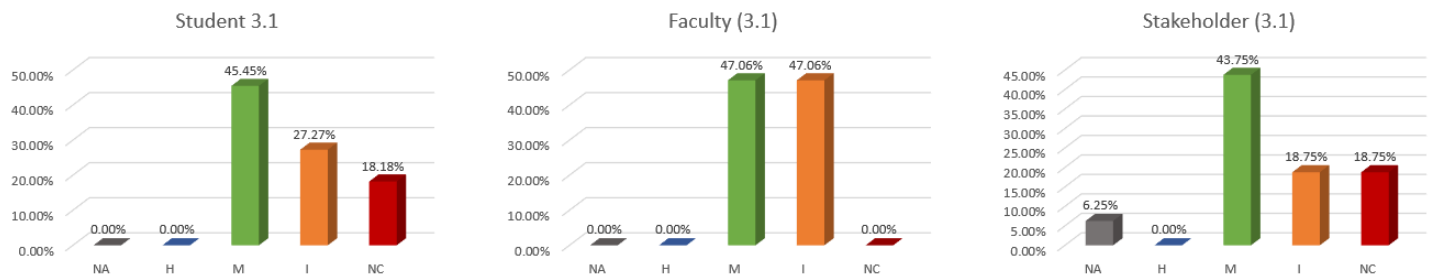
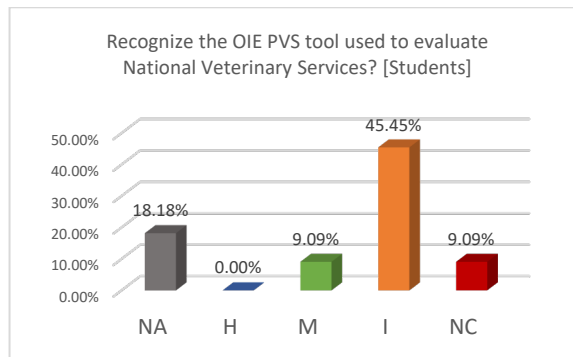


Figure 27: Overall Assessment of 3.1 Organization of Veterinary Services Competency ranked Not in the Curriculum [NA], High [H], Moderate [H], Insufficient [I], or Not Competent [NC] by faculty, students and stakeholders

- Overall evaluators perceived veterinary graduates to not be competent in understanding the organization of veterinary services. One area that was identified as needing the most attention was competency in recognizing the OIE PVS tool that is used to evaluate National Veterinary Services, with only 31% of those who took the evaluation rating graduates as highly or moderately competent. Of those who took the evaluation, only 9% of students rating themselves as competent in this area (Figure 28).

**Figure 28:** Students' perceived competency of UoG veterinary graduates' ability to recognize the OIE PVS tool used to evaluate National Veterinary Services.





### 3.2- Inspection and Certification Procedures

Veterinarians competent in inspection and certification programs are able to assess the health of an animal in order to properly draft a health certificate that can be used for transportation, domestic consumption, or exportation based on international and national standards and regulations.

Results:

- Overall, 46% of those who evaluated the UoG veterinary students perceived graduates to be highly to moderately competent in inspection and certification procedures. Below a stratified analysis of perceived competency broken down by group type can be seen (Figure 29).

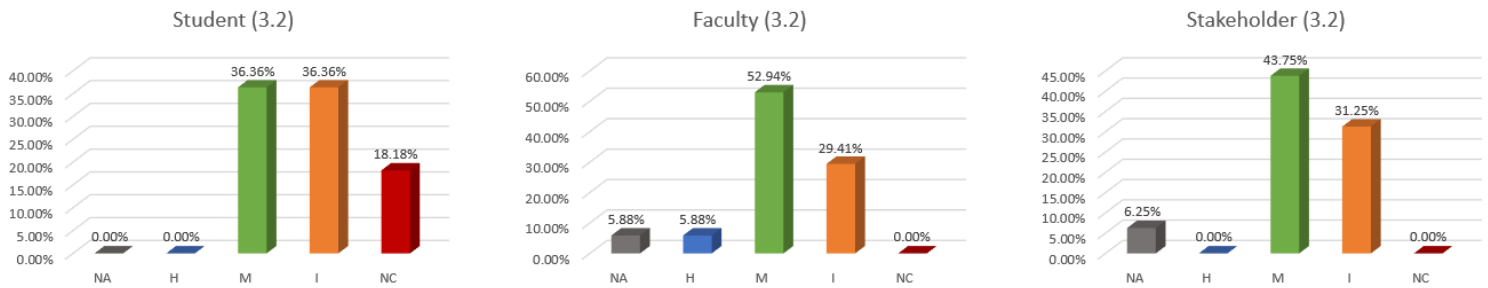
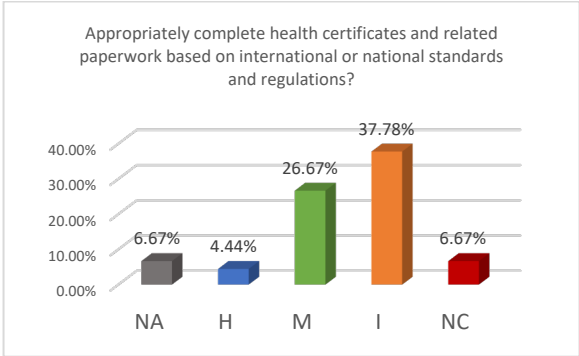


Figure 29: Overall Assessment of 3.2 Inspection and Certification Procedures Competency ranked Not in the Curriculum [NA], High [H], Moderate [H], Insufficient [I], or Not Competent [NC] by faculty, students and stakeholders

- An area that appears to need significant attention is student’s ability to complete health certificates and other paperwork related to international and national standards and regulations. Based on the evaluation only 31% of those who took the evaluation perceived UoG veterinary graduates moderately to highly competent in this area (Figure 30).

Figure 30: Overall perceived competency of UoG veterinary graduates’ in their ability to appropriately complete health certificates and other related paperwork according to national and international regulations.



### 3.3- Management of Contagious Disease

Veterinarians who can competently manage contagious disease are knowledgeable about how these diseases are monitored and how to conduct disease surveillance. In addition, these professionals can proficiently perform and outbreak investigation via proper source identification and route of transmission. These professionals are also knowledgeable regarding movement control, quarantine, mass humane euthanasia, carcass disposal, and zoning principles used to monitor disease.

Results:

- Overall, 62% of those who evaluated the UoG veterinary students perceived graduates to be highly to moderately competent in management of contagious disease. Below a stratified analysis of perceived competency broken down by group type can be seen (Figure 31).

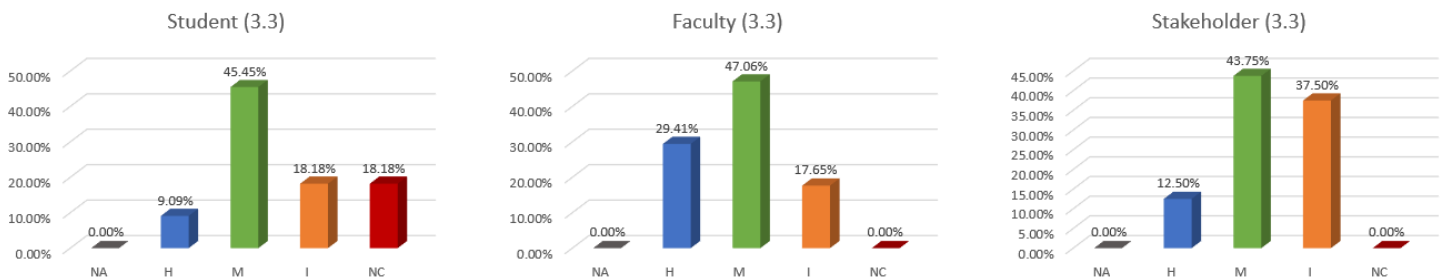


Figure 31: Overall Assessment of 3.3 Management of Contagious Disease Competency ranked Not in the Curriculum [NA], High [H], Moderate [H], Insufficient [I], or Not Competent [NC] by faculty, students and stakeholders

- Though students did not rate highly or moderately competent in management of contagious disease overall, one sub-category that graduates were thought close to achieving competency in was methods to disinfect premises and equipment and contaminated materials while not harming animals, people, or the environment. Overall, this sub-category received a high to moderate competency rating of 68%, showing that UoG veterinary graduates are close to achieving competency in here (Figure 32).

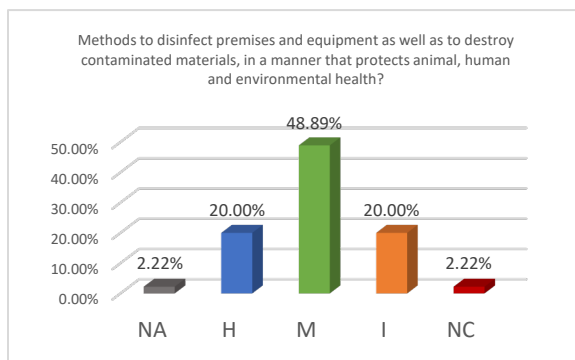


Figure 32: Overall perceived competency of UoG veterinary graduates' in their knowledge on methods to disinfect premises and equipment in a way that can also protect human, animal, and environmental health.

### 3.4- Advanced Food Hygiene

Veterinarians competent in advanced food hygiene are able to proficiently carry out drug residue testing to ensure that animal products are free of antimicrobials, pesticides, hormones, or heavy metals that can pose a risk to human health, also known as adulterates. Day-1 graduates should also be able to properly review food processing sanitation procedures as well as describe proper preparation and storage procedures of animal-based food products.

Results:

- Overall, 62% of those who evaluated the UoG veterinary students perceived graduates to be highly to moderately competent in advanced food hygiene. Below a stratified analysis of perceived competency broken down by group type can be seen (Figure 33).

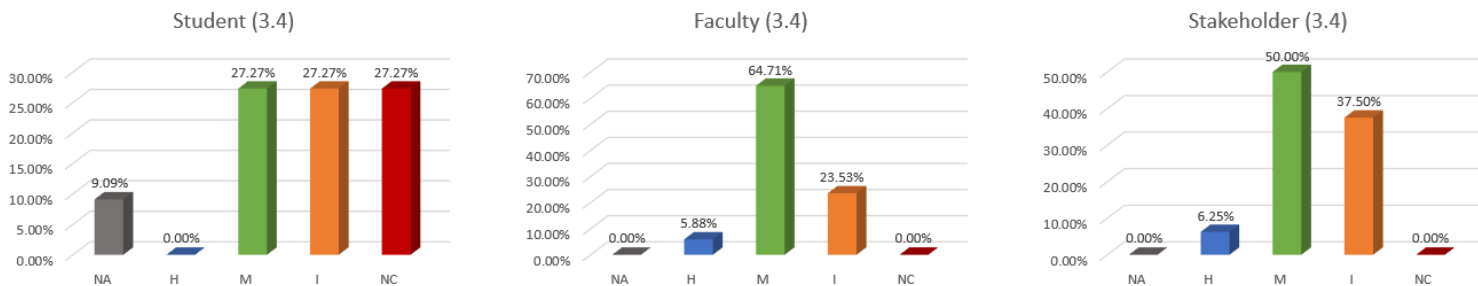
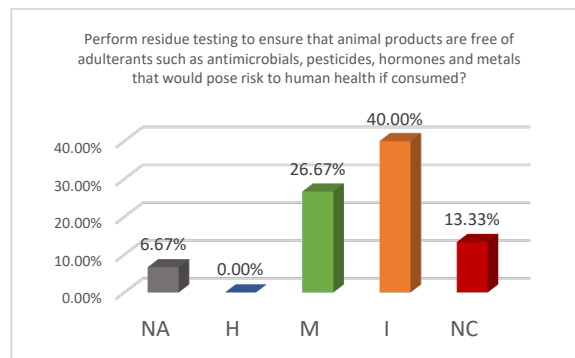


Figure 33: Overall Assessment of 3.4 Advance Food Hygiene Competency ranked Not in the Curriculum [NA], High [H], Moderate [H], Insufficient [I], or Not Competent [NC] by faculty, students and stakeholders

- Considered extremely important in the prevention of AMR, a low rating in UoG veterinary graduates' ability to perform residue testing to ensure animal products are free of adulterates is imperative to a countries National Veterinary Services. Given that only 26% of those who participated in the evaluation rated UoG veterinary graduates moderately to highly competent in this area, attention should be paid to increasing student knowledge in this area (Figure 34).

Figure 34: Overall perceived competency of UoG veterinary graduates' ability to perform residue testing to ensure animal products are not adulterated.

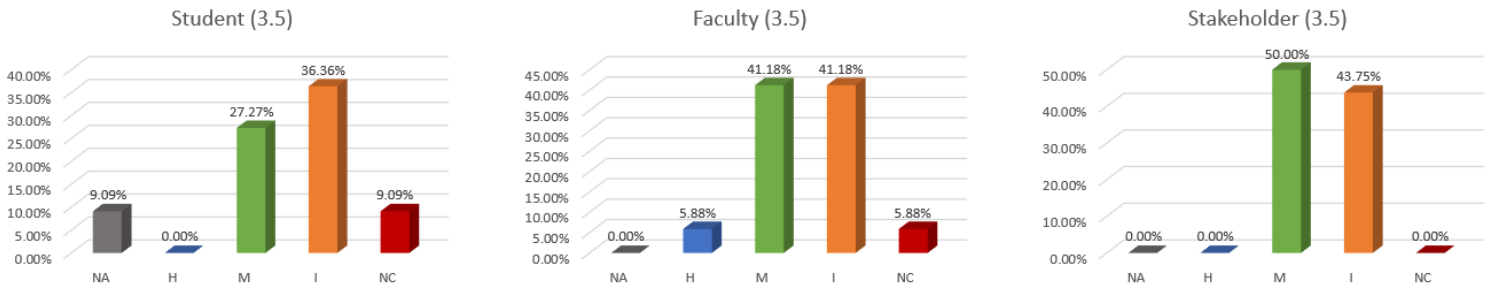


### 3.5- Application of Risk Analysis

Competency in application of risk analysis includes being able to apply risk analysis and understand how the likelihood of disease occurrence as well as the magnitude can negatively impact the health of humans and animals, as well as the economy. Veterinarians proficient in risk analysis have knowledge in the four major components risk management, risk assessment, hazard identification, and risk communication. By utilizing risk analysis veterinarians can identify adequate veterinary services to protect the health of human, animals, and the environment.

Results:

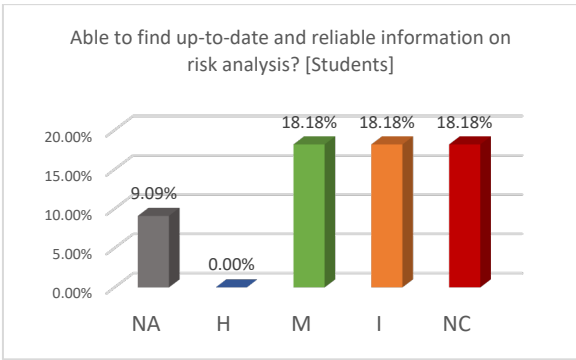
- Overall, 42% of those who evaluated the UoG veterinary students perceived graduates to be highly to moderately competent in applying risk analysis to understand the likelihood of disease. Below a stratified analysis of perceived competency broken down by group type can be seen (*Figure 35*).



*Figure 35: Overall Assessment of 3.5 Application of Risk Analysis Competency ranked Not in the Curriculum [NA], High [H], Moderate [H], Insufficient [I], or Not Competent [NC] by faculty, students and stakeholders*

- An area within this competency that was identified as needing the most attention is student’s ability to find up-to-date and reliable information on risk analysis. Overall, only 31% of those who took the evaluation perceived students to be competent in this area. Of the students who took the evaluation, only 18% of them felt moderately to highly competent in locating this up-to-date information (*Figure 36*).

*Figure 36: Students’ and recent graduates perceived competency of UoG veterinary graduates’ in ability to find up-to-date information on risk analysis.*

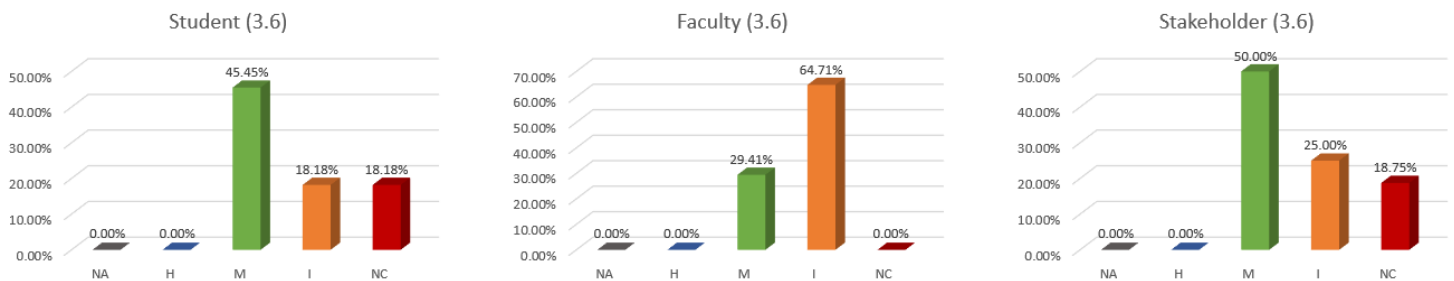


### 3.6- Research

Day 1 graduates who are competent in research are capable to develop and test a hypothesis as well as design studies and/or experiments using the scientific method. Once data is collected a competent veterinarian is also able to appropriately determine and use the proper statistical method for the data collected. Once analyzed veterinarians should be able to review the analysis and interpret the results to establish the strength of the conclusion.

Results:

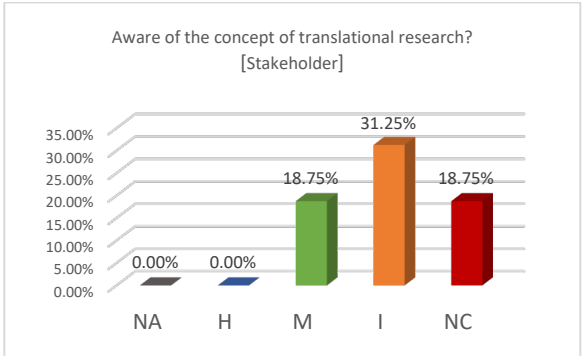
- Overall, 40% of those who evaluated the UoG veterinary students perceived graduates to be highly to moderately competent in applying risk analysis to understand the likelihood of disease. Below a stratified analysis of perceived competency broken down by group type can be seen (*Figure 37*).



*Figure 37: Overall Assessment of 3.6 Research Competency ranked Not in the Curriculum [NA], High [H], Moderate [H], Insufficient [I], or Not Competent [NC] by faculty, students, and stakeholders*

- While veterinary students were found to lack competency in this section overall, one area that needs specific attention is graduates awareness of the concept of translational research. Only 17% of those who took the evaluation found veterinary graduates to be highly to moderately competent in this area. In the stakeholder group only 18% of individuals believed students to be competent in this area, suggesting the requirement of serious intervention (*Figure 38*).

*Figure 38: Stakeholders' perceived competency of UoG veterinary graduates' awareness of the concept of translational research.*



### 3.7- International Trade Framework

Veterinarians who are competent in international trade framework can understand the laws and regulations that help govern safe international trade of both animal products and animals. Competency in this area also means a professional should be aware of the World Trade Organization (WTO) Sanitary and Phytosanitary (SPS) measures. In addition, veterinarians are aware of the roles and responsibilities of both the OIE and the Food and Agriculture Organization (FAO) in developing science-based regulations for international trade.

Results:

- Overall, 40% of those who evaluated the UoG veterinary students perceived graduates to be highly to moderately competent in applying risk analysis to understand the likelihood of disease. Below a stratified analysis of perceived competency broken down by group type can be seen (Figure 39).

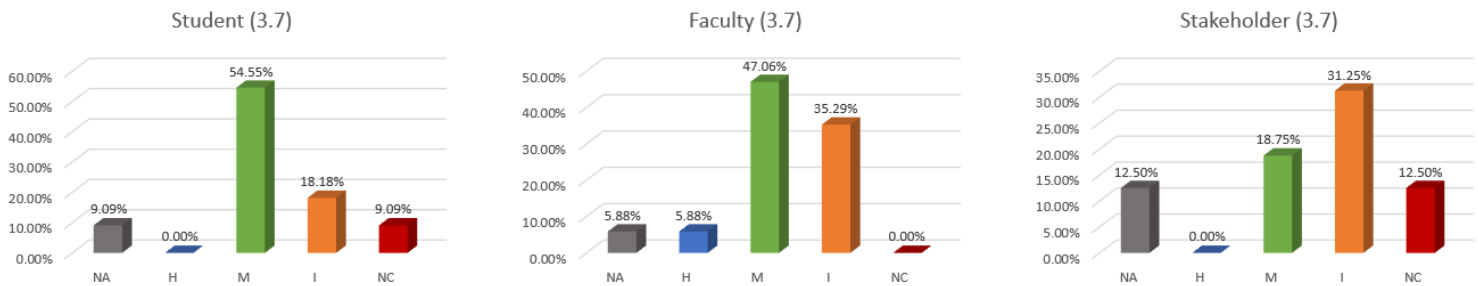
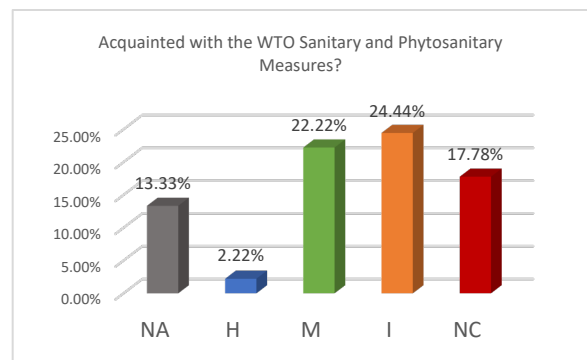


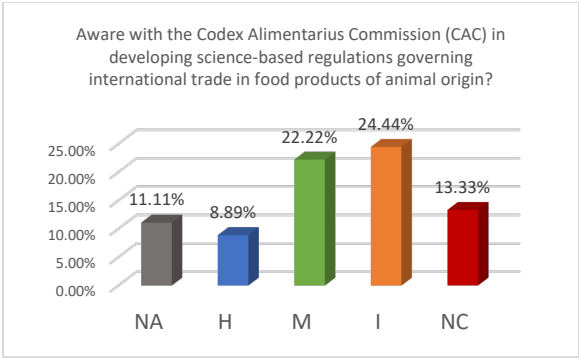
Figure 39: Overall Assessment of 3.7 International Trade Competency ranked Not in the Curriculum [NA], High [H], Moderate [H], Insufficient [I], or Not Competent [NC] by faculty, students, and stakeholders

- Upon evaluation International Trade Competency had three of the top ten lowest rating subcategories of the evaluation. These subcategories included: Acquainted with the WTO Sanitary and Phytosanitary Measures; Aware with the Codex Alimentarius Commission (CAC) in developing science-based regulations governing international trade in food products of animal origin? Able to research current and reliable information regarding international trade. These subcategories received moderate to high proficiency ratings from 24%. (Figure 40), 31% (Figure 41), and 27% (Figure 42) respectively.

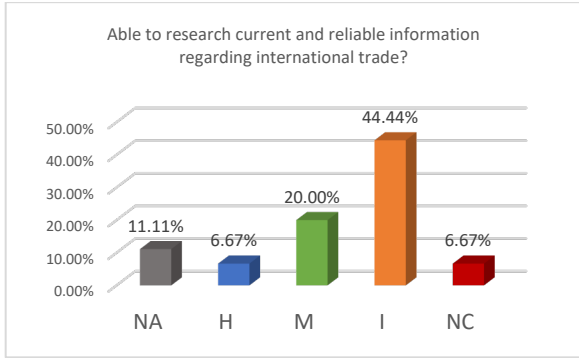
Figure 40: Overall perceived competency of UoG veterinary graduates' acquaintance with WTO Sanitary and Phytosanitary Measures.



*Figure 41: Overall perceived competency of UoG veterinary graduates' in awareness with Codex of Alimentarius in terms of developing science.*



*Figure 42: Overall perceived competency of UoG veterinary graduates' ability to research current and reliable information regarding international trade.*

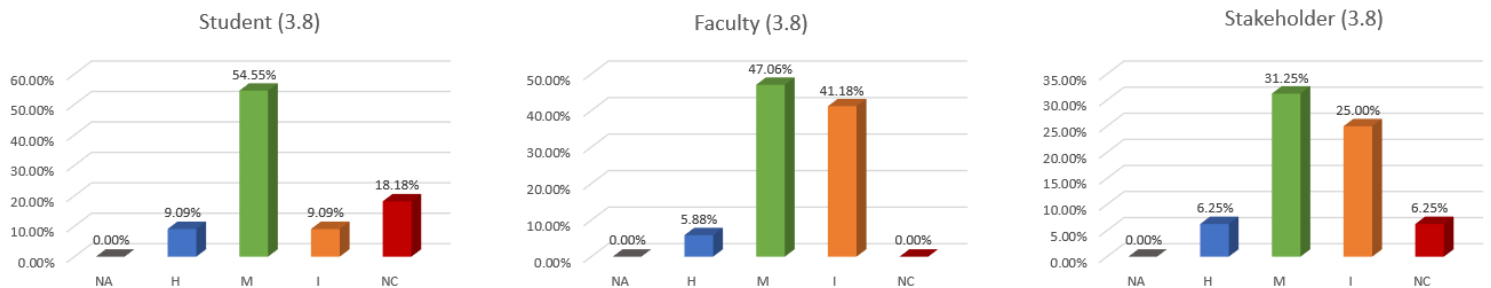


### 3.8- Administration and Management

Competency in administration and management are capable of planning, organizing and leading projects to effectively achieve a common goal or objective. Proficiency in this area includes effective written and verbal communication skills in one or more OIE languages in addition to public communication skills to deliver public service announcements and press releases.

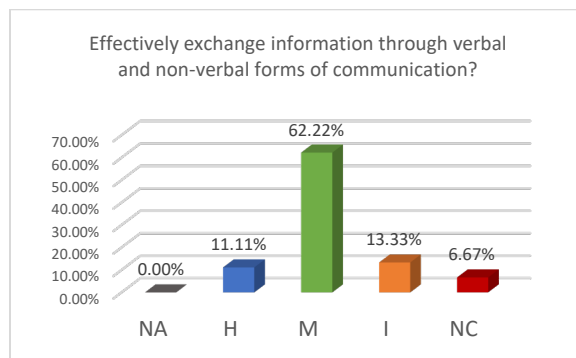
Results:

- Overall, 49% of those who evaluated the UoG veterinary students perceived graduates to be highly to moderately competent in applying risk analysis to understand the likelihood of disease. Below a stratified analysis of perceived competency broken down by group type can be seen (*Figure 43*).



*Figure 43: Overall Assessment of 3.8 Administration and Management Competency ranked Not in the Curriculum [NA], High [H], Moderate [H], Insufficient [I], or Not Competent [NC] by faculty, students, and stakeholders*

- Veterinary students received the highest rating with the subcategory ‘effectively exchanging information through verbal and non-verbal forms’ with a perceived high to moderate competency of 73% among those who took the evaluation (*Figure 44*).

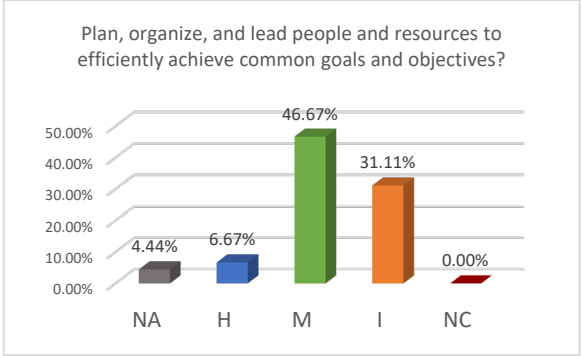


*Figure 44: Overall perceived competency of UoG veterinary graduates’ ability to plan, organize, and lead people and resources to effectively achieve common goals and objectives.*

- The subcategory with the lowest perceived competency level of the subcategories within this competency. Only 53% of evaluators felt that students were highly to moderately level competent in graduate’s ability plan, organize, and lead people and resources to efficiently achieve a common goal and objective (*Figure 45*)



*Figure 45: Overall perceived competency of UoG veterinary graduates' ability to effectively exchange information through verbal and non-verbal forms of communication.*



## Results & Discussion:

To calculate if students were considered proficient in each competency the number of individuals who selected highly and moderately competent were summed and divided by the total number of individuals who responded and divided by 100 to calculate the percent. If the percentage of high and moderate ratings was over 70% students were considered competent. Tables can be seen in earlier sections of this report showing a general breakdown of some of the competencies. Of the competencies UoG DVM graduates were found to be deemed proficient in 43 competencies and topics and not proficient in 129 competencies and topics. Though there was an overall decrease in the number of competencies UoG DVM students were considered proficient in decreased from 2019 compared to that in 2015 (*Table 1*), **this is likely due to response shift bias rather than a true decrease in DVM student's competency in each area.** In 2015 many faculty, students, and stakeholders were unfamiliar with any of the OIE Day One Competencies and had little understanding of what proficiency in this area meant. Since that time many of the individuals within UoG have become much more familiar with each are of the OIE Day One Competencies. **This increase in awareness likely led to a more critical evaluation of each area, in turn leading to lower competency ratings overall.**

To determine if there was a significant difference between the 2015 and 2019 evaluation a Chi Square test was carried out comparing each topic and competency ratings in 2019 to those in 2015. Of these comparisons used to evaluate the difference between 22 topics and competencies had a positive change, 61 had a significantly negative change and 78 had no significant change. It is important to note that some topics that did see a significant increase in perceived competency, though this increase was not always enough to shift competency or topics from not proficient to proficient.

**It is also relevant to note that no significant increase was expected in proficiency ratings between 2015 and 2019 as the curriculum changes in 2015 will not have their full effect for several more years.** In addition, students and recent graduates who participated in the 2019 evaluation are not the students who have actively participated in the new curriculum, causing them to evaluate themselves at a lower proficiency than students who are receiving the newly created curriculum may have.