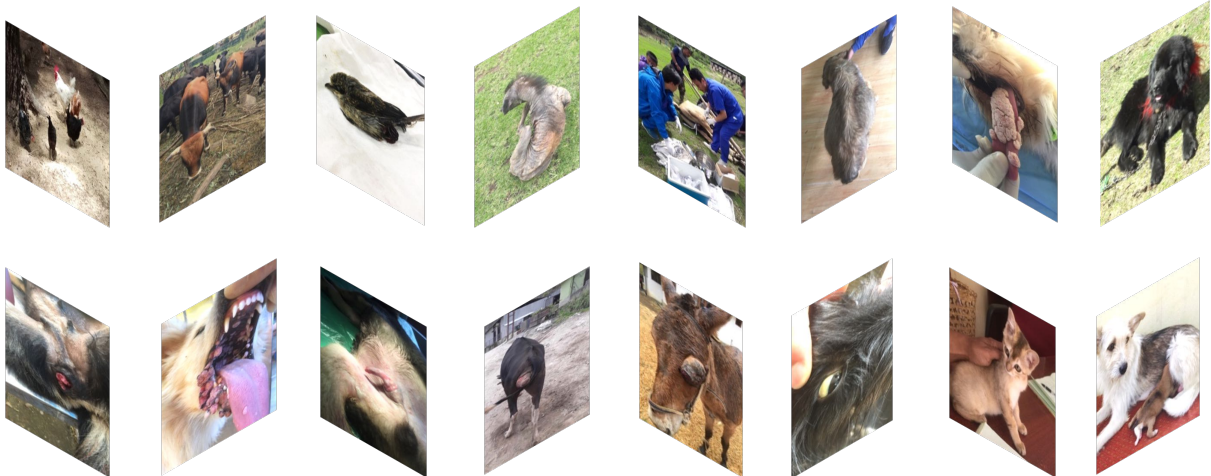


# ANNUAL PROGRESS REPORT 2017-18

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## 1. FOREWORD

I am pleased to bring forth the Annual Progress Report for fiscal year 2017-2018 for National Veterinary Hospital (NVH), Motithang under the Department of Livestock, Ministry of Agriculture and Forests. It is the first Annual Progress Report in print form prepared by National Veterinary Hospital, therefore, it gives me immense pleasure to be a part of a dynamic team of professionals who are not only hardworking and optimistic but also progressive.

As the lead agency, NVH has always strived to be at the forefront of Veterinary Clinical Services upliftment in the country. The highlight of our achievements in 2017-18 is the construction of the new NVH at Motithang. It accrues more significance because Her Majesty, The Gyaltsuen Jetsun Pema Wangchuck is the benevolent patron. Her Majesty has personally visited the hospital during laying of foundation, the construction and inauguration. Her Majesty also provided invaluable guidance ensuring there are no hindrances and the hospital is of the highest quality. The new hospital replaces the old hospital at Chubachu which was struggling to cope with increasing demand for better facilities and services.

In addition, NVH has successfully developed Standard Operating Procedures (SOPs) for various Veterinary Clinical Services to streamline and standardize the veterinary clinical services across the country for efficient service delivery. Sensitization and implementation of these SOPs were conducted at NVH and West-Central region during the in-service training conducted by RLDC Wangdue. As the Pharmacovigilance center for veterinary medicines, NVH provided sensitization activities to the field staff in collaboration with DRA. Being the custodian of Animal Welfare, NVH has also successfully developed the draft Bhutan Animal Welfare Standards and Guidelines for Farm and Companion animals in collaboration with Animal Health Division, Department of Livestock.

During 2017-18, NVH has provided treatment to 13762 cases, dewormed 4148 animals, vaccinated 4142 pets (Anti-Rabies and DHPPi+L vaccines, registered 1499 pets (dogs and cats), and sterilized 1218 animals, especially dogs and cats (284 at NVH and 934 during campaigns conducted in collaboration with NDPM& RCP, Thimphu DVH and Thromde). These accomplishments have been possible only due to the sheer hard work and dedication of the NVH staff and the constant guidance and support rendered by the Department led by hon'ble Dasho DG.

I would like to thank and congratulate all the staff of NVH for successfully achieving the set targets for 2017-18 and at the same time wish for a more fruitful 2018-19.

TASHI DELEK!

(Dr. Kinley Dorji)

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## 2. BACKGROUND

Animal health is one of the important support services under the Department of Livestock, Ministry of Agriculture and Forests. Animal health services include clinical veterinary services, supply of veterinary medicines, vaccines, equipment, and diagnostic services. The veterinary clinical services are being provided through a network of animal health facilities such as the National Veterinary Hospital (NVH), Thromde Veterinary Hospitals (TVH), four Regional Livestock Development Centres (RLDC), 20 Dzongkhag Veterinary Hospitals (DVH) and Livestock extension centres (LEC/RNR-EC) at geog level.

Since the first establishment of animal health services in the early 1960s, we have come a long way, and made tremendous progress, both in terms of infrastructure and human resource capacities. Over the years, the sole focus on treatment of animals has slowly shifted to the overall development of animal health sector in the country through strengthening of Veterinary Clinical Services.

The animal health component complements the animal production, which is one of the important contributors to the country's socioeconomic development through income generation and food self-sufficiency. Animal health (along with nutrition and management) is directly linked to the productivity of the animals and the animal health in turn rely on the quality of the veterinary clinical services.

NVH is the referral center and lead agency for veterinary clinical services in the country and therefore, plays a major role in delivery and development of efficient veterinary clinical services in the country.

### 2.1 Mission

Provide high quality and efficient veterinary clinical services to improve animal health and welfare.

### 2.2 Vision

Function as a model Veterinary Institution in providing state of the art Clinical Veterinary Services in the country.

### 2.3 Mandates

- Provide high quality clinical veterinary services.
- Function as a national referral hospital for clinical veterinary services in the country.
- Plan, coordinate, monitor and evaluate clinical veterinary services in the country.
- Function as an institute for capacity development in clinical veterinary services.
- Support development of policies, strategies and plans for animal health.
- Support research on animal health.
- Act as pharmaco-vigilance centre for veterinary clinical services.

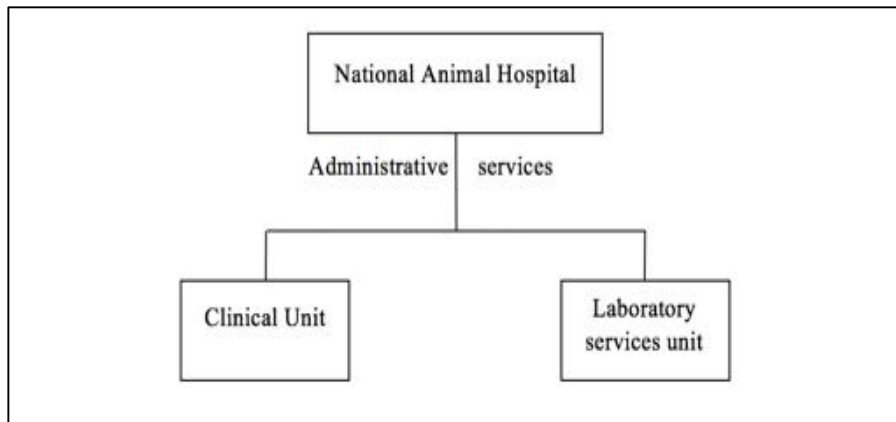
## 2.4 Veterinary Clinical Services

Various veterinary clinical services provided by NVH (but not limited to) are as follows:

- Treatment of sick animals
- Surgical interventions (both minor and major)
- Sterilization
- Deworming
- Vaccination
- Registration of pets (dogs and cats only)
- Referral services
- Technical backstopping on clinical veterinary services
- Issue of health certificates
- Rescue and treatment (both domestic as well as wild animals) in collaboration with relevant stakeholders

## 3. ORGANOGRAM

### 3.1 Old organogram

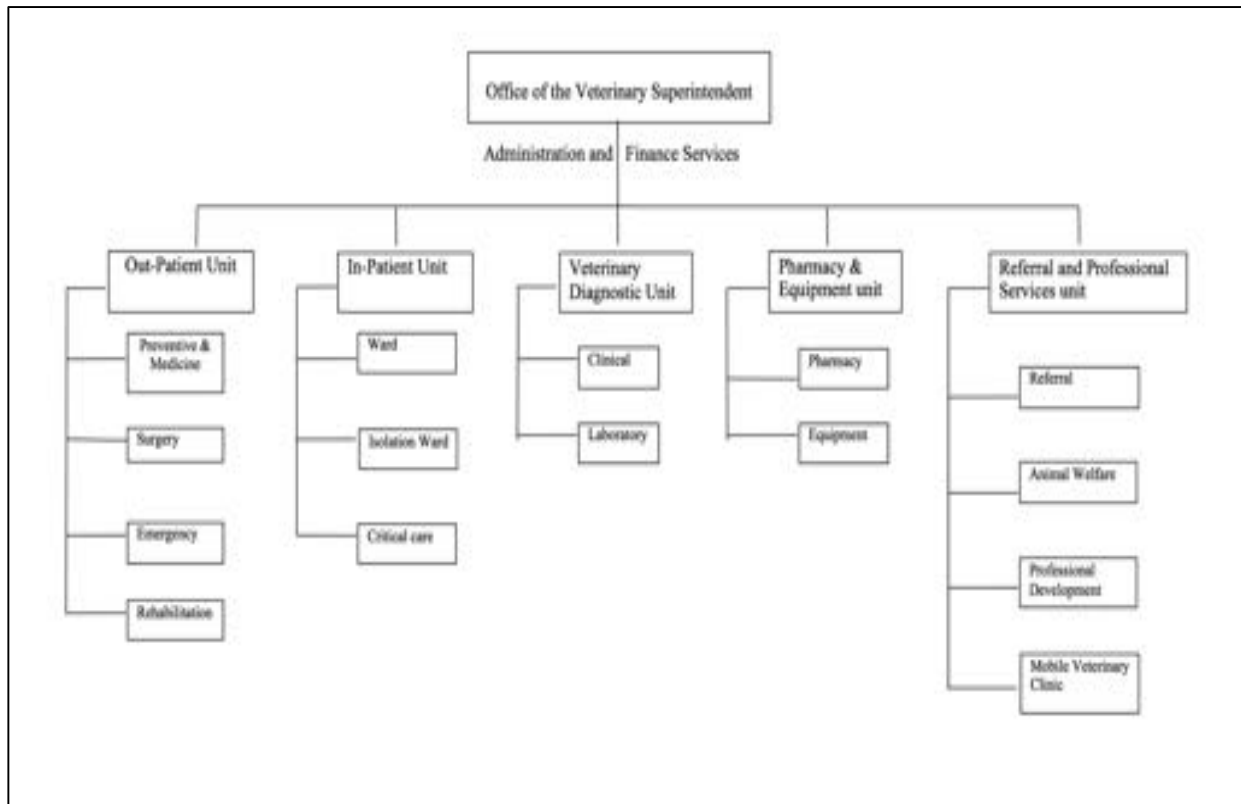


*Fig. 1: Old organogram for National Veterinary Hospital*

Since the old National Animal Hospital at Chubachu was a small structure with limited spaces, only two units were established viz; Clinical and Laboratory services unit. The clinical unit was responsible for various outpatient services like pet registration, vaccination, treatment and surgery. The laboratory services unit looked after all the activities related to laboratory services from sample collection to examination and also submission of samples to NCAH for referrals. Although, the NVH was mandated to provide referral services as well as technical backstopping then, it was not able to fulfill them due to inapt facilities and capacities.

### 3.2 New/ Proposed organogram

After the completion and operationalization of the new veterinary hospital at Motithang, a new organogram was proposed to RCSC to enable provision of efficient clinical veterinary services (Fig 2).



*Fig 2: Proposed organogram for National Veterinary Hospital*

The NVH has proposed to establish four Units (excluding administration and finance services) to broadly segregate works/ activities of the hospital since it is a technical agency. The units are further divided into 15 Sections in order to delegate clear job responsibilities to ensure specialized services are carried out efficiently. A brief description of the new organogram is given below:

- Office of the Veterinary Superintendent

Currently, the hospital is headed by Chief Veterinary Officer (CVO). Similar to the Jigme Dorji Wangchuck National Referral Hospital of the Ministry of Health, it is proposed that a Veterinary Superintendent (P1/ES) will head the National Veterinary Hospital, who will be responsible for the overall management of the hospital, both in terms of administration as well as technical aspects. As NVH is a technical body, the Veterinary Superintendent shall be preferably a Veterinarian.

- Administration and Finance Services

This section will look after all the administration and financial matters of the hospital and will be an important component in complementing the technical department in providing efficient services.

- Out Patient Unit (OPU)

The OPU deals with patients which are brought at the hospital for treatment and then discharged the same day without having to admit them at the wards. The OPU is further divided into five sections as given below:

- Preventive & Medicine Section

This section is responsible for preventive services such as vaccination and deworming in-order to prevent disease outbreaks. It also deals with consultation and treatment in animals.

- Surgery Section

This section deals with all the services/ interventions related to the surgery of animals. The services include castration & spaying, soft tissue surgery, orthopedic surgery and oral surgery. The section will have a preparation/anesthetic room, scrub room for surgeon/ assistant surgeon, changing room, operation room and recovery room and surgical instrument room.

- Rehabilitation Section

In this section, various rehabilitation/ physiotherapy services are provided through Laser, Ultrasound, Electric and Thermal therapies. Additionally, treadmill and other exercises are also put in place for patients with musculoskeletal problems to help them regain mobility in their limbs to lead a healthy and normal lives. In the near future, a plan to provide hydrotherapy will also be explored.

- Emergency Section

This section will cater to the patients which require urgent veterinary interventions. All the patients which are suffering from acute illness and serious injuries/ trauma which are life threatening will be treated directly routed and treated in this section. The emergency section is proposed to be kept open for 24 hours in the future.



- In-Patient Unit (IPU)

This Unit will deal with patients which require continuous treatment/ medication and observation by admitting them in the wards for a certain period of time until recovery. This unit will have staff working at 8 hours shift to provide continuous care and management of the patients in the wards. A kitchen for preparing food and feeding of patients in the wards are also in place. The IPU is divided into three Sections as under:

- Ward

This section will house/ admit the patients which need further evaluation, observation or treatment. There is provision to house canine as well as feline patients separately.

- Isolation section

The isolation section will deal with housing the animals which are suspected or suffering from contagious diseases to prevent further spread of infection to other animals.

- Critical Care Section

The Critical Care Section (CCS) will house critically sick patients in order to provide them with advanced treatment and care. For the critically sick patients, medical health care services and observations need to be provided round the clock, therefore, full time monitoring with staff on eight hours shift system is proposed for this purpose.

- Diagnostic Unit

The Diagnostic Unit will be responsible for various veterinary diagnostic services in order to help in the rapid and accurate diagnosis of diseases which will further aid in providing specific treatment regimen to the sick animals. The Diagnostic Unit is divided into two sections as under:

- Clinical Section

The Clinical Section will provide Clinical diagnostic services like Ultrasonography, Endoscopy and Digital Radiography. These services are part and parcel of Clinical Veterinary Services as they help in identification of problems for Veterinarians to provide specific treatment for quick recovery. In the future, additional equipment will be procured for this section. Currently NVH has Endoscopy/ Ultrasonography room and a Radiography room.

- Laboratory Section

The Laboratory Section will be responsible for provision of laboratory services; from taking samples of the animals to examining them at the laboratory. Various laboratory services currently provided at NVH include hematology, parasitology and biochemistry. A plan to provide bacteriology services is in the pipeline.

- Pharmacy and Equipment Unit

This unit will deal with all the veterinary drugs, vaccines and equipment of the hospital. This unit is divided into Pharmacy and Equipment sections.

- Pharmacy Section

The Pharmacy section will be responsible for providing veterinary drugs and vaccines whenever they are required. Dispensing of the drugs to the patients (as prescribed by the doctors) will be done by this section. It will also look after submitting requisition, procuring, storing and managing the drugs and vaccines at the hospital.

- Equipment Section

This section will be responsible for maintaining records of all the veterinary equipment kept at the hospital and issue where needed. It will also be responsible for facilitating, monitoring and maintenance of all the equipment.

- Referral and Professional Development Unit

This unit will be dealing with referral of cases (both within and outside the country). It will also be responsible for management of Mobile Veterinary Clinic, which will move around in order to provide clinical veterinary services, especially in areas where access to veterinary services are difficult. This unit will also have a professional development section which will be managing various professional services relevant to clinical veterinary services. The Referral and Professional Development Unit is divided into 3 sections as given below:

- Referral Section

As the National Veterinary Hospital, it is mandated to act as a Referral center for clinical veterinary services. Patients from other districts can refer their cases to NVH for advanced diagnosis and treatment.

- Professional Development Section

This section will deal with professional development activities related to clinical veterinary services. In country as well as ex-country trainings, workshops including collaboration in areas such as research, teaching and trainings will also be managed by this section.

- Animal Welfare Section

This section will look after the welfare issues of the animals and will be monitoring welfare standards in the hospitals, farms and animal shelters across the country. This section will liaise with Animal Welfare Organizations/ NGOs working for animal welfare in and outside the

country to promote animal welfare. It will also be responsible for developing animal welfare policies in the country in collaboration with relevant stakeholders.

#### 4. HUMAN RESOURCES

|   |  |   |   |   |  |   |  |
|---|--|---|---|---|--|---|--|
|      |  |   |   |   |  |   |  |
| Dr. Kinley Dorji (CVO)  |  |   |   |   |  |   |  |
|      |  |      |   |      |  |    |  |
| Dr. Pema Tshewang (DCVO)  |  | Dr. Jambay Dorji (Sr. VO)   |   | Dr. Meena Devi Samal (Sr. VO)   |  | Dr. Nima Wangdi (VO)  |  |
| <b>Veterinary Doctors</b>   |  |   |   |   |  |   |  |
|      |  |      |   |      |  |      |  |
| Gembo Tshering (Sr. LHS-II)   |  | Tshering Yangchen (Sr. LPS-III)   |   | Sonam Zangmo (Sr. LPS-III)  |  | Leela Maya Dahal (Sr. LHS-II)   |  |
|      |  |     |   |    |  |    |  |
| Phuntsho Dema (Sr. LPS-III)   |  | Neten Zangmo (Technician-I)   |   | Tshultrim Choden (LHS-II)   |  | Chimi Wangmo (LHS-II)   |  |
| <b>Para-Veterinary Professionals/ Technician</b>                                      |  |   |   |   |  |   |  |
|    |  |   |  |   |  |  |  |
| Kinzang Pelden (Asst. Lab Tech I)   |  |   | Pema Tshomo (Asst. Lab Tech I)  |   |  | Punya Mata Sanyasi (Asst. Lab Tech. I)  |  |
| <b>Laboratory Technicians</b>   |  |   |   |   |  |   |  |
|    |  |   |   |  |  |   |  |
| Tula Maya Sharma (Sr. Admin Asst. V)  |  |   |   | Ludup Pelmo (Admin. Asst. II)   |  |   |  |
| <b>Administration</b>   |  |   |   |   |  |   |  |
|    |  |    |   |    |  |    |  |
| Norbu Gyeltshen (Driver -I)   |  | Tenzin Pelden (GSP- II)   |   | Tshering Zangmo (ESP)   |  | Yonten Jamtsho (ESP)  |  |
|  |  |  |   |   |  |   |  |
| Jangchu Wangdi (ESP)  |  | Tenzin Lhamo (ESP)  |   |   |  |   |  |
| <b>Support staff</b>  |  |   |   |   |  |   |  |

*Fig 3: Existing human resource at NVH (names and designations)*

Currently, NVH has five Veterinarians, eight Para-veterinary professionals/ Animal Health Supervisors, three Assistant Laboratory Technicians and eight Non-technical staff (Fig 3). The non-technical staff comprise of a Senior Administrative Assistant and an Administrative Assistant/ Data manager. Rest of the support staff comprise of three Animal attendants, a driver, a sweeper and a night guard). The two Para-veterinary professionals joined NVH from 1<sup>st</sup> January 2018 and an additional Para-veterinary professional joined from 8<sup>th</sup> Feb 2018. Two assistant laboratory technicians were transferred from NCAH and joined NVH on 1<sup>st</sup> Feb 2018.

## 5. WORKING HOURS

The National Veterinary Hospital provides regular services from 9am till 3pm during weekdays (Monday to Friday) and 9am till 1pm during Saturdays. During weekdays, after 3pm, a para-veterinarian attends to the cases till 8pm and on Saturdays, a Para-veterinarian attends to the cases till 5pm. During Sundays and government holidays, two Para-veterinarians provide off-hours veterinary clinical services from 9am till 3pm. A Veterinarian is called-on during these off-hours to attend the emergency cases, which cannot be handled by the staff on duty. For any emergency cases beyond the given time, veterinarians attend to the calls 24 X 7 (Table 2). However, the hospital is planning to provide 24 hours' services in the future as a part of normal working routine.

*Table 2: Summary of current working hours*

| Sl.no | Day                          | Time    | Off- hours | Emergency       |
|-------|------------------------------|---------|------------|-----------------|
| 1     | Monday to Friday             | 9am-3pm | 3-8pm      | 24 hrs. on call |
| 2     | Saturday                     | 9am-1pm | 1-5pm      |                 |
| 3     | Sunday & government holidays | 9am-3pm |            |                 |

## 6. ACHIEVEMENTS (2017-18)

### 6.1 PLANNED ACTIVITIES

#### 6.1.1 CONSTRUCTION OF NATIONAL VETERINARY HOSPITAL AT MOTITHANG



*Pictures: Her Majesty, The Gyalsuen Jetsun Pema Wangchuck's visits: a) during the laying of foundation on 20<sup>th</sup> July 2015 b) inauguration of the new National Veterinary Hospital on 5<sup>th</sup> Feb, 2018 and c) one of the visits during construction of the hospital on 6<sup>th</sup> Nov 2017 (Picture courtesy: Her Majesty's Facebook page)*

The construction of the NVH began in 2015 with a budget outlay of Nu. 57 million, which was funded by the government of India project. However, the total expenditure was 55.83 million only. The construction of the hospital took approximately two and a half years to complete. The new NVH at Motithang was inaugurated on 5<sup>th</sup> February, 2018 by Her Majesty, The Gyalsuen Jetsun Pema Wangchuck on the occasion of His Royal Highness, The Gyalsey's 2<sup>nd</sup> Birth Anniversary. The new NVH symbolizes the importance and growth of Veterinary Clinical Services in the country. The design and structure of the hospital was conceived in such a way so as to provide the most efficient veterinary clinical services. The new hospital is the solution towards keeping up with the increasing demand for modern animal health care for companion as well as domestic animals. Most importantly, we are blessed to have received the Royal patronage from Her Majesty, The Gyalsuen Jetsun Pema Wangchuck. Her Majesty had graced both the laying of foundation as well as inauguration of the hospital after completion. Moreover, Her Majesty had visited several times during the construction of the hospital to provide invaluable advises and to ensure that the hospital is of the highest standard. It timely replaces the old veterinary hospital at Chubachu which was struggling to cope with increasing demand for improved veterinary services.

*Table 3: The new hospital has provisions for following rooms*

| <b>Top floor</b>                           | <b>Ground floor</b>   | <b>Basement</b>  |
|--|---|--|
| Office of the CVO                          | Spacious reception and client waiting hall  | Critical care unit   |
| General administrative room                | Vaccination/ pet registration room  | Inpatient unit (canine ward, feline ward, isolation ward)        |
| Laboratory (microbiology and biochemistry) | Five consultation rooms   | Physiotherapy room   |
| Pantry                                     | Treatment room  | Laundry room   |
| Guest room                                 | Minor OT  | Kitchen for inpatient unit                                       |
| Library                                    | Endoscopy/ Ultrasound room  | 3 cabins (to provide privacy for owners with end stage patients) |
| Conference hall                            | X-ray room  | 1 doctor's quarter   |
| VVIP and VIP room                          | Decontamination room  | 1 ESP quarter  |
|  | Emergency room  |  |
|  | OT complex with separate rooms for preparation, recovery, scrub, changing and instrument area |  |

### 6.1.2 PHARMACOVIGILANCE – SENSITIZATION AND IMPLEMENTATION

Pharmacovigilance is the science and activities concerned with the detection, assessment, understanding and prevention of adverse reactions to medicines (WHO). Till today, there were no reports of adverse drug reaction in animals. This is thought to be mainly due to lack of knowledge or experience and even if there were possible cases, they did not know where to report. In view of safety in the use of medicines in animals and to improve animal health care, the pharmacovigilance center for animal health sector was instituted at NVH.

As the national pharmacovigilance center for veterinary medicines, NVH is mandated to carry out the following activities:

- Carry out awareness and advocacy program on Pharmacovigilance.
- Endorsing of ADR guideline for veterinary sector.
- Training on detection of ADR and reporting to the center.
- Implementation of ADR strategies in the country.

The sensitization workshop was conducted with DRA taking the lead role in November 2017 at Gelephu. The workshop aimed at creating awareness on roles and mandates of the DRA; monitoring and reporting adverse drug reactions, product defects and adverse events following immunization (AEFIs). The workshop was attended by veterinary professionals from various Veterinary Hospitals and Livestock Extension Centres from Western and Southern Regions of the country.



*The Drug Regulatory Authority (DRA) conducted a two-day workshop on Pharmacovigilance from 15 -16 November 2017 at Gelephu. (pic courtesy – DRA website)*

### 6.1.3 ANIMAL WELFARE - STANDARDS AND GUIDELINES FOR FARM AND COMPANION ANIMALS

Animal welfare is an essential component of animal health and care. There has been growing awareness and increasing pressure from welfare organizations on all the aspects of animal care and management around the world. Although Bhutanese people are compassionate in nature, this has not been able to translate into actions. The animal welfare is sometimes being taken for granted which ultimately leads to confinement of these welfare activities to a few animal health and welfare facilities.



*Consultative workshop on Animal Welfare standards and guidelines for Farm and Companion animals being conducted at Phuentsholing from 21-26 Dec 2017 involving stakeholders from DoL, BAFRA, RSPCA and Jangsa Animal Saving Trust.*

There has been a series of consultative workshops where the Livestock Rules and Regulations 2008 were reviewed especially pertaining to the Animal Welfare aspects. In collaboration with relevant stakeholders, NVH has taken lead in drafting the Animal Welfare guidelines. As apex body for veterinary clinical services and as custodian of animal welfare, it is our duty to improve animal health as well as animal welfare through scientific researches, education, collaboration, advocacy and development of legislation and regulations.

Therefore, NVH organized a Training Workshop involving the relevant stakeholders. During the training workshop the participants were sensitized on the draft animal welfare guidelines/ standards and the draft document was further refined based on the feedback and recommendations received during the workshop.



The Training Workshop was held from 21<sup>st</sup> -26<sup>th</sup> December 2017 at Phuentsholing. Representatives from various stakeholders from Animal Health Division, National Center for Animal Health, National Dairy Research Center, Regional Poultry Breeding Center, Regional Livestock Development Centers, National Piggery Breeding Center, Dzongkhag Veterinary Hospital, Bhutan Agriculture and Food Regulatory Authority, Jangsa and Royal Society and Protection and Care of Animals were invited to participate in the Training Workshop.

At the end of the workshop, a draft Bhutan Animal Welfare Standards and Guidelines for cattle, pig, poultry, draft animals and companion animals were developed. Additionally, the Tshethar guidelines as well as the draft National Dog Population Management guidelines were also reviewed during the workshop.

#### 6.1.4 STANDARD OPERATING PROCEDURES (SOPS)- TRAINING AND IMPLEMENTATION AT NVH

Standard operating procedure is a set of step-by-step instructions to perform a certain activity/operation in order to achieve efficiency, quality output and uniformity of performance.

22 SOPs on clinical veterinary services were developed during the SOP workshop conducted in February 2017 which was organized by NVH in collaboration with AHD, DoL (Table 4).

After finalization of these SOPs, it was decided that NVH should conduct sensitization and mock drills of these SOPs at NVH first before expanding to other animal health centers in the country. Therefore, sensitization of various SOPs through training was conducted from 22 – 30<sup>th</sup> May 2018 to all the staff of NVH and thereafter, fully implemented.

*Table 4: Various SOPs on Clinical Veterinary Services*

| Sl.no | Title of SOPs                        | Sl.no | Title of SOPs  |
|-------|--------------------------------------|-------|--|
| 1     | SOP for Pet Registration             | 13    | SOP for Storage and Management of Medicines, Non- Drug Items and Equipment |
| 2     | SOP for Deworming of pets            | 14    | SOP for Disposal of Pharmaceutical and Biological Wastes                   |
| 3     | SOP for Vaccination of pets          | 15    | SOP for Mobile Veterinary Clinic   |
| 4     | SOP for Case Registration            | 16    | SOP for Utilization of Veterinary Ambulance                                |
| 5     | SOP for Consultation                 | 17    | SOP for Deworming of Farm Animals  |
| 6     | SOP for Treatment of pets            | 18    | SOP for Vaccination of Farm Animals  |
| 7     | SOP for Surgery of pets              | 19    | SOP for Treatment of Farm Animals  |
| 8     | SOP for Clinical Diagnostic Services | 20    | SOP for Surgery of Farm Animals  |
| 9     | SOP for Emergency Cases              | 21    | SOP for Customer Care  |
| 10    | SOP for Referral Cases               | 22    | SOP for Anesthesia of Farm Animals   |
| 11    | SOP for Anesthesia for pets          |       |  |
| 12    | SOP for Surgery Appointment          |       |  |

During the training, a total of ten training modules on veterinary clinical services were covered. The training had a mixture of theory, demonstration, practical and a drill. For the practical and drill exercise, the participants were divided into groups based on their tasks assigned to them and trained on different modules as follows:

Module I: Pet registration, Deworming of pets, Case Registration, Surgery appointment & Customer care.

*Outcomes:* The participants were able to fill up the pet details in the booklet, enter the information into the database and record cases in the register. They were also able to communicate with the clients properly through customer friendly approach and hence helped them in building a strong relationship between themselves and the clients.

Module II: Vaccination of pets

*Outcomes:* They were able to carry out the standard vaccination protocol in pets with proper handling of animals as well as vaccines.

Module III: Consultation & Treatment of pets

*Outcomes:* They were able to communicate effectively with the pet owners in deriving the history of illness and have also acquired skills on proper handling of animals during the examination and treatment. They will also be able to carry out physical examination of the animals and record the physiological parameters. They have acquired theoretical knowledge and practical skills on administering medicines to the animals.



*Physical examination & auscultation*



*Sterilizing the site of injection with spirit*

Module IV: Anesthesia of pets & Surgery of pets

*Outcomes:* They were able to develop anesthetic protocol and carryout anesthesia in animals under the supervision of vets.



*Preparation for surgery*



*Surgical operation*

#### Module V: Deworming & Vaccination of farm animals

*Outcomes:* A uniform and standard vaccination and deworming schedule is adopted. They gained knowledge on different vaccines and deworming drugs used in farm animals.

#### Module VI: Treatment, Anesthesia and Surgery of farm animals

*Outcomes:* Aesthetic procedures in farm animals were established. They were sensitized on judicious use of antibiotics and acquired skills in examining and treating farm animals.

#### Module VII: Storage of medicines, non-drug items and equipment & Dispensing of medicines.

*Outcomes:* They are able to manage store and dispense medicines more effectively complying with the DRA. Issues related to drug shortage and expiry will be reduced to minimum.

#### Module VIII: Referral cases & Emergency cases

*Expected outcome:* Emergency and referral cases will be handled effectively. Number of deaths may be reduced.

#### Module IX: Mobile Veterinary Clinic & Utilization of veterinary ambulance

*Expected outcomes:* Remotest villages will be able to access veterinary services. Misuse of ambulance will be controlled.

#### Module X: SOP on Clinical diagnostic services and training on diagnostic equipment & physiotherapy equipment.

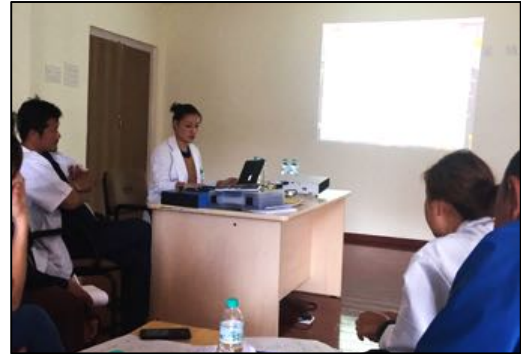
*Outcomes:* They were able to set up the machine and operate the machine effectively. They were able to make interventions in case of emergency hence chances of survival of animals enhanced. Physiotherapy services were provided effectively to patients who have suffered acute illness, trauma/injuries, or accident. We anticipate there will be high client satisfaction rate.

## MODALITIES

Introduction to SOPs and Diagnostic equipment:

Power point presentations on the SOPs were made to the participants. Soft copies of the SOPs were also circulated to all the participants.

There were lectures on setting up of the machines and their operations. The manuals were shared to all the technical staff.



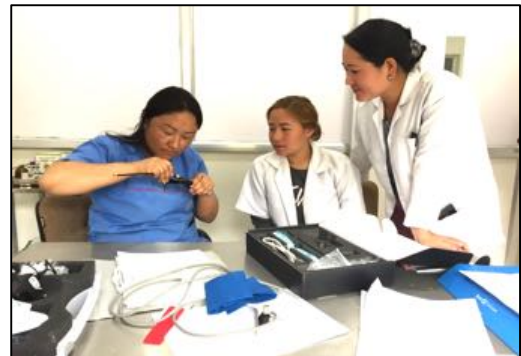
*Dr. Jambay and Dr. Meena during the power point presentations on SOPs & Diagnostic equipment*

Practical demonstration and exercise:

In order to familiarize and to enable better understanding of the procedures, the trainers demonstrated all the procedures and setting up of the machines and their operations. During the exercises, technical staff had hands on training on the equipment on the animal patients which were brought to the hospital.



*Endoscopic examination*



*Practical exercises*



*Measuring blood pressure in a dog*



*Demonstration of a diagnostic equipment*

#### Drill exercise for SOPs

Following the introduction to SOPs and practical demonstration, a separate drill exercise was conducted to test each SOP. The facilitators set case scenario and each participant were made to carry out the tasks based on their assigned job responsibilities.

#### On the job training (OJT)

In addition to drill exercise, on the job training was conducted at NVH. During the exercise, the pet and livestock owners visiting the hospital were informed about the exercise.

#### **Training workshop on Standard Operating procedures (SOPs) on Clinical Veterinary Services for Veterinary Health Professionals of West-Central Region from 23<sup>rd</sup> to 27<sup>th</sup> January 2018:**

During the in-service training workshop conducted by RLDC, Wangdue for its West-Central Region, Dr. Jambay Dorji and Dr. Meena Devi Samal provided sensitization and practical lessons for SOPs on various Veterinary Clinical Services. During the training workshop, a total of 47 participants were present, representing various gewogs under the five dzongkhags (Dagana, Gasa, Punakha, Tsirang and Wangdue).



*Dr. Jambay engaged in imparting practical lessons on SOPs of various veterinary clinical services in pet and farm animals during the training workshop*

#### 6.1.5 COST RECOVERY SCHEME – FEASIBILITY STUDY FOR EXPANSION

The first task force was formed in 2016 to review the cost recovery scheme initiated at the then National Animal Hospital, located at Chubachu, Thimphu and also to study the feasibility of expansion at other Thromde Veterinary Hospitals (Gelephu, Phuentsholing, Samdrup Jongkhar) including District Veterinary Hospital at Paro. The Task force had recommended for the expansion of CRS at these centres. However, the study had several limitations; perception of service providers was not included, infrastructure and facilities survey was not conducted, impact on HRD was not analyzed, and clinical veterinary services were not included.

The second task force was formed to review the CRS and study the possibility of expansion to other TVHs (excluding Paro as it is not under Thromde). The limitations in the first review were addressed in the present study.

A questionnaire survey was instituted for the clients visiting NVH and TVHs for a period of one month. A total of 176 clients who visited these hospitals were asked to fill up the questionnaires. In addition, 23 DoL staff were asked to fill up the questionnaires to collect information regarding their perception on the CRS, since they are the main service providers. The review was conducted with the following objectives:

- Review the existing cost recovery scheme of veterinary medicines at NVH
- Assess the scope of initiating cost recovery mechanism for other veterinary clinical services at NVH
- Explore possibilities of initiating/expansion of cost recovery mechanism at other TVHs
- Propose the rates/fees for the veterinary clinical services upon their categorization and
- Propose remuneration scheme for Outcall and Off-hour veterinary clinical services.

The report on CRS has been developed and was submitted to DoL for further review and to seek subsequent endorsement from the GNHC committee.

### 6.1.6 PROCUREMENT AND ESTABLISHMENT OF SPECIALIZED EQUIPMENT

During the 2016-17 fiscal year, various specialized equipment was procured to aid in proper diagnosis and treatment. After completion of the new NVH at Motithang, most of these instruments/ equipment have been introduced and utilized for efficient service delivery (Table 5)

*Table 5: various specialized equipment procured, introduced and implemented at NVH*

| <b>Laboratory diagnostic</b>   | <b>Clinical diagnostic</b>  | <b>Surgical</b>  | <b>For critical care</b>   | <b>Physiotherapy</b>   |
|--|---|--|--|--|
| <ul style="list-style-type: none"> <li>- Biochemistry analyser</li> <li>- Urinanalyser</li> <li>- Centrifuge</li> <li>- Binocular microscope</li> <li>- Trinocular microscope</li> <li>- Laminar flow cabinet</li> </ul> | <ul style="list-style-type: none"> <li>- Multi-parameter monitor</li> <li>- Tonometer</li> <li>- Otoscope</li> <li>- Endoscope</li> <li>- Rhinoscopy</li> <li>- Blood pressure monitor</li> </ul> | <ul style="list-style-type: none"> <li>- Cutting Electro-surgical unit</li> <li>- Orthopedic drill</li> <li>- Surgical ophthalmic kit</li> <li>- Electro-pneumatic ventilator/ anesthesia</li> <li>- Dental kit</li> </ul> | <ul style="list-style-type: none"> <li>- Pulse oximeter</li> <li>- Veterinary blood pressure monitor (semi-automatic)</li> <li>- Ultrasonic Doppler (animal blood pressure)</li> <li>- Multi-parameter machine</li> <li>- Defibrillator</li> <li>- Suction pump</li> <li>- Veterinary intra-oral digital camera</li> </ul> | <ul style="list-style-type: none"> <li>- Ultrasonography machine</li> <li>- Veterinary photo-stimulation</li> <li>- Veterinary electro-stimulator</li> <li>- Treadmills</li> </ul> |

During 2017-18 some of the new laboratory diagnostic facilities that were introduced were Biochemistry analyser and Urinalyzer. For clinical diagnostics all the equipment listed in the Table 5 except Rhinoscopy were being used. Similarly, all the equipment (except electro-pneumatic ventilator/ anesthesia) were used during surgical operations. Although Critical Care unit is in place, due to shortage of staff, it has not been utilized. However, Pulse oximeter, Veterinary blood pressure monitor and multi-parameter machine were routinely used. In the physiotherapy section ultrasonography therapy machine, veterinary photo-stimulation, veterinary electro-stimulator and treadmills were introduced. For patients with musculoskeletal problems, physiotherapy services with ultrasonography therapy machine were provided.

### 6.1.7 VETERINARY CLINICAL SERVICES

The regular activities of NVH include providing treatment to sick animals including surgical interventions. Deworming and vaccination along with pet registration are also carried out every day. However, sterilization services are only provided twice a week. For 2017-18, the achievements with regards to these services are summarized in the Table below.

*Table 6: Summary of clinical veterinary services provided during 2017-18*

| <b>Activities</b>         | <b>Particular</b>                     | <b>Total</b> |
|---------------------------|---------------------------------------|--------------|
| <i>OPD</i>                |                                       |              |
| Clinical cases            | Treatment                             | <b>13762</b> |
| Parasitic control         | Ectoparasite                          | 281          |
|                           | Endoparasite                          | 3967         |
| Surgical cases            | Other than sterilization              | 399          |
| Vaccination               | DHPPi + L                             | 1994         |
|                           | ARV                                   | 2148         |
| Pet registration          | For dogs and cats                     | 1499         |
| Sterilization             | Conducted routinely at NVH            | 284          |
| Sterilization campaign    | With NDPM & RCP, Thromde, DVH Thimphu | 934          |
| Contraception             | Medroxyprogesterone injection         | 36           |
| <i>Laboratory section</i> |                                       |              |
| Parasitology              | Fecal                                 | 196          |
|                           | Skin scraping                         | 100          |
| Hematology                | HB (g/dl)                             | 87           |
|                           | DLC                                   | 87           |
|                           | Direct smear for blood parasites      | 3            |
| Bio-Chemistry             | Biochemical analysis                  | 134          |
| Post mortem               | Referral to NCAH                      | 24           |

Of the total clinical cases treated at NVH, the highest number was diagnosed as Gastrointestinal and the lowest was cardiovascular affections (Fig 1). Musculoskeletal and skin problems were also being consistently observed. A total of 13762 cases were brought to the hospital, of which 4012 were new and 9750 were repeat cases (Table 7). In 399 animals, some form of surgical interventions was also provided to the patients. Apart from this, 281 and 3967 animals were treated against external and internal parasites respectively.



Table 7: No. of patients with Various disorders brought at NVH

| Disorders                  | No of cases |
|----------------------------|-------------|
| GI conditions              | 1253        |
| Respiratory conditions     | 82          |
| Urogenital conditions      | 73          |
| Skin affections            | 876         |
| Musculoskeletal conditions | 923         |
| Cardiovascular conditions  | 27          |
| Nervous disorders          | 81          |
| General conditions         | 335         |
| Eyes & ear affections      | 192         |
| Metabolic and deficiencies | 55          |
| Specific infections        | 72          |
| Poisoning                  | 43          |
| Total (new cases)          | 4012        |
| Repeat case                | 9750        |
| Total cases                | 13762       |

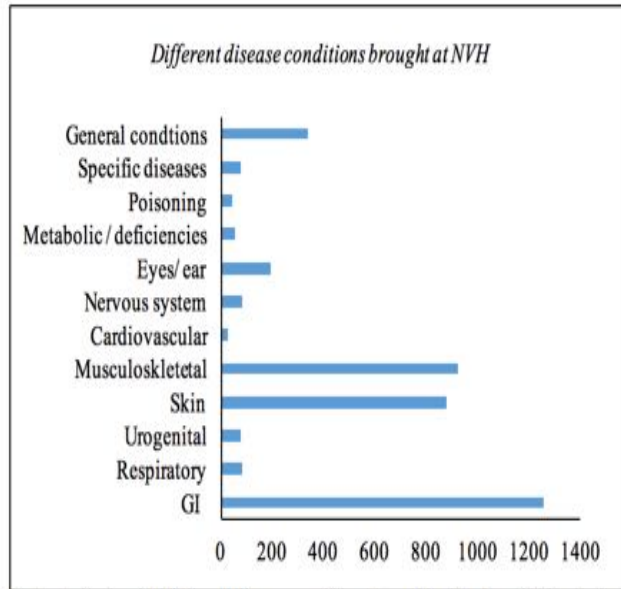
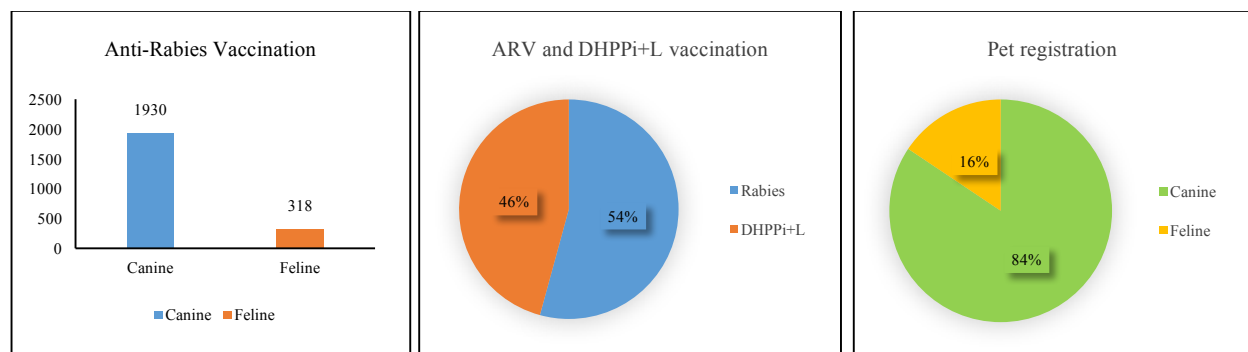


Fig 1: Animals with different disease conditions brought at the hospital for treatment

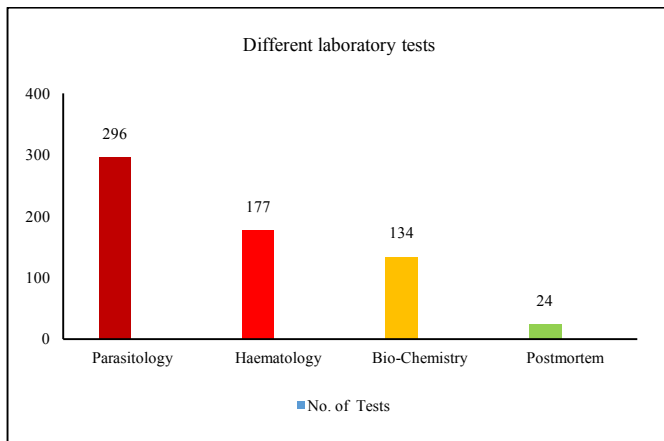
In order to prevent outbreak of diseases, NVH encourage and promote vaccination in pet animals. 2148 pets (dogs and cats) were vaccinated against Rabies and vaccination for Canine Distemper-Hepatitis-Parvo-Parainfluenza + Leptospira (DHPPi+L) were also carried out in 1994 pet dogs (Fig 2a). Out of the total number of pets vaccinated against Rabies and DHPPi+L, 54% were vaccinated against Rabies whereas 46% were vaccinated against DHPPi+L (Fig 2b).

All pet animals (dogs and cats) are required to be registered with NVH. During 2017-18, a total of 1499 pet animals were registered with NVH. Of this, 84 % was canine and 16% was feline species (Fig 2c).



(a) comparative figures for anti-rabies vaccination in pet animals (cats and dogs);  
 (b) ARV and DHPPi+ L vaccination; (c) pet registration in dogs and cats.

One of the mandates of NVH is dog population control through regular sterilization of pet animals at NVH and during sterilization campaigns which are conducted in collaboration with NDPM & RCP, Thimphu Thromdey and Thimphu DVH. A total of 284 pet animals were sterilized at NVH during routine sterilization program and 934 dogs (mostly free roaming) and cats were sterilized during sterilization campaigns. For owners, who do not prefer invasive procedures, a non-invasive birth control is provided at NVH. A total of 36 pet animals were injected with medroxyprogesterone to prevent conception and breeding (Table 6).



*Fig 3: Graph showing various lab tests performed at NVH      \*Samplng skin scraping for exam*

The Laboratory section at NVH is divided into hematology/ parasitology and microbiology. In 2017-18, 631 samples were collected of which 296, 177, 134 and 24 were for parasitology, hematology, biochemistry and post mortem respectively (Table 6 & Fig 3). Since NVH does not have provision for conducting post mortem at the hospital, carcass samples are sent to NCAH. At NVH, two new tests were introduced, namely Urit -50 (Urine analysis) and EM 200 bio chemistry machine (bio-chemical analysis). Microbiology tests were not performed due to lack of complete set of equipment. However, plans are in place to introduce microbiology tests during 2018-19.

#### 6.1.8 BUDGET UTILIZATION FOR 2017-18

A total of Nu. 21.417m was approved for NVH during 2017-18 fiscal year, of which Nu. 9.967m was Current and Nu. 11.450m was Capital budget. The Capital budget of Nu. 11.00m was earmarked for the construction of NVH at Motithang from the GOI project funding. The budget utilization percentage was 98.15% for that year (appendix 1).

*Table 7: Approved Budget for NVH, FY 2017-18 (Nu in million)*

| <b>Sl. No</b> | <b>Title</b>  | <b>Current</b> | <b>Capital</b> | <b>Total</b>  |
|---------------|---|----------------|----------------|---------------|
| 1             | Operation and management services   | 9.497          | 0.250          | 9.747         |
| 2             | Training on advance veterinary clinical diagnosis                           | 0.000          | 0.100          | 0.100         |
| 3             | Strengthening and enhancement of laboratory diagnostic services             | 0.090          | 0.100          | 0.190         |
| 4             | Animal health- dog and cat population management and rabies control program | 0.130          | 0.000          | 0.130         |
| 5             | National pharmacovigilance center for veterinary services                   | 0.250          | 0.000          | 0.250         |
| 6             | Construction of National Veterinary Hospital (GOI Project)                  | 0.000          | 11.000         | 11.000        |
|               | <b>Total (Nu in M)</b>  | <b>9.967</b>   | <b>11.450</b>  | <b>21.417</b> |

## 6.2 UNPLANNED ACTIVITIES

The unplanned/ ad-hoc activities are listed in the table below as a summary. They are divided into In-country and Ex-country as most of these unplanned activities were carried out either within or outside the country in the form of trainings, workshops or tours.

### 6.2.1 IN-COUNTRY

*Table 8: In-country trainings/ workshops attended outside of the planned activities*

| Sl.no | Training/ workshop  | Date           | Venue            | Person/s attended                       |
|-------|---|----------------|------------------|---|
| 1     | Dossier evaluation and review of ASEAN CTD dossier format   | 27-29/9/2017   | Paro             | Dr. Pema Tshewang                       |
| 2     | Scientific writing training for Livestock personnel organized by DoL  | 22-26/11/2017  | Phuentsholing    | Dr. Jambay Dorji & Dr. Meena Devi Samal |
| 3     | Write-shop on 12 FYP  | 20-21/11/2017  | Phuentsholing    | Dr. Pema Tshewang                       |
| 4     | Dossier evaluation of medicinal products organized by DRA   | 12-16/12/2017  | Paro             | Dr. Pema Tshewang                       |
| 5     | Workshop on issue of banned medicines organized by DRA  | 2-5/1/ 2018    | Paro             | Dr. Pema Tshewang                       |
| 6     | Resource person for in-service training organized by RLDC, Wangdue  | 23-27/1/ 2018  | Punakha          | Dr. JD, Meena                           |
| 7     | 10 <sup>th</sup> NVDC meeting   | 12/2/ 2018     | Gelephu          | Dr. Jambay Dorji                        |
| 8     | Talk by Dr. Marc Valitutto, Wildlife Veterinary Medical Officer, Smithsonian Conservation Biology Institute, Washington DC, USA | 4/3/2018       | DoL, Thimphu     | Dr. Kinley Dorji and Dr. Pema Tshewang  |
| 9     | RNR-GNHC meeting for Tshethar guidelines  | 28/3/ 2018     | MoAF, Thimphu    | Dr. Pema Tshewang                       |
| 10    | 32nd Drugs Technical Advisory Committee (DTAC) meeting organized by DRA   | 29-30/3/ 2018  | Phuentsholing    | Dr. Jambay Dorji                        |
| 11    | Inspection of consignment at LCS  | 31/8-3/10/2017 | Phuentsholing    | Dr. Nima Wangdi                         |
| 12    | Develop competency exam questions with DRA  | 11-16/9/2017   | Paro             | Dr. Pema Tshewang                       |
| 13    | Royal Highland Festival   | 19/10/2017     | Laya, Gasa       | Dr. Kinley Dorji, Dr. Meena & Dr. Nima  |
| 14    | Farm Bio-Security & Herd Health management  | 8-12/2/2018    | Gelephu          | Dr. Jambay Dorji                        |
| 15    | National IHR-PVS Bridging Workshop  | 13-15/3/ 2018  | Paro             | Meena Devi Samal<br>Tshering Yangchen   |
| 16    | Training on tick identification organized by NCAH & RCDC  | 3-6/4/ 2018    | Thimphu          | Dr. Meena & Pema Tshomo                 |
| 17    | TOT on “sensitization of Ethics and Integrity tools” for mandatory indicator for the APA 2017-18                                | 9-10/4/2018    | Thimphu          | Tula Maya Sharma                        |
| 18    | Tender evaluation of veterinary medicines and vaccines for FY 2018-19   | 20-27/6/ 2018  | NCAH, Serbithang | Dr. Jambay Dorji                        |

## 6.2.2 EX-COUNTRY

*Table 9: list of ex-country trainings/ workshops/ tours undertaken*

| <b>Sl.no</b> | <b>Training/ workshop</b>   | <b>Date</b>   | <b>Venue</b>   | <b>Person/s attended</b> |
|--------------|---|---------------|--|--------------------------|
| 1            | Conference on 4 <sup>th</sup> Project Task Force Meeting for NDPM & RCP and 10 <sup>th</sup> Asia for Animals       | 30/11/ 2017   | Kathmandu, Nepal   | Dr. Kinley Dorji         |
| 2            | Referral of Royal pet dog   | 21/8/2017     | Kasetsart university veterinary teaching hospital, Bangkok | Dr. Kinley Dorji         |
| 3            | Regional Conference on Veterinary Para-professional in Asia   | 6-8/12/ 2017  | Bangkok, Thailand  | Sonam Zangmo             |
| 4            | Training on health care and management of the Shetland ponies and accompany them to Bhutan from Chiangmai, Thailand | 14-23/2/ 2018 | Chiangmai, Thailand  | Dr. Pema Tshewang        |
| 5            | Referral of Royal pet dog   | 14/3/2018     | Bangkok  | Dr. Kinley Dorji         |
| 6            | Training on advanced office management and administration   | 12-25/3/2018  | Maejo university, Chiangmai, Thailand                      | Ludup Pelmo              |
| 7            | Training on advanced office management and administration   | 23-6/5/2018   | Maejo university, Chiangmai, Thailand                      | Tula Maya Sharma         |
| 8            | Pharmacovigilance Training at Indian Pharmacopoeial Commission  | 8-15/6/2018   | India  | Tshering Yangchen        |
| 9            | GMP audit of pharmaceutical manufacturing firms based in Hyderabad, India organized by DRA                          | 13-17/6/2018  | Hyderabad, India   | Dr. Jambay Dorji         |
| 10           | Study tour in HIS project sites in India  | 19-29/6/2018  | India  | Dr. Nima Wangdi          |

### 6.2.3 VISITORS TO NVH DURING 2017-18

NVH receives occasional visitors which are both formal and informal in nature. During 2017-18 two groups of Thai delegates from Zoological Park Organization, Thailand visited NVH. The first group came along with the two Shetland ponies which were bestowed to HRH The Gyelsay on the occasion of HRH's 2<sup>nd</sup> birth anniversary. They stayed for a week to oversee the care and management of the two ponies and also at the same time shared their expertise on diagnostic equipment like ultrasonography and radiology to the staff of NVH. The second Thai delegates came to formally bestow the two Shetland ponies to Her Majesty, The Gyaltsuen Jetsun Pema Wangchuck. They also attended the inauguration ceremony of the new NVH at Motithang.

Dr. Marc Valitutto, a wildlife Veterinarian from Smithsonian Conservation Biology Institute, Washington DC, USA also visited NVH to review the collaborative activities carried out by the Wildlife Conservation Division, Department of Forestry and Park Services with NVH in terms of rescue, treatment and rehabilitation of various wildlife animals.

*Table 10: Summary of visitors received at NVH during 2017-18*

| Sl. No | Visitors  | Date          | Remarks   |
|--------|---|---------------|---|
| 1      | Thai delegates  | 23-30/1/ 2018 | Accompanied two Shetland ponies   |
| 2      | Thai delegates  | 3-6/2/2018    | To bestow 2 Shetland ponies to HRH, The Gyalsey on His 2 <sup>nd</sup> Birth anniversary on 5 <sup>th</sup> February 2018 |
| 3      | Dr. Marc Valitutto, Wildlife Veterinary Medical Officer, Smithsonian Conservation Biology Institute, Washington DC, USA | 1/3/2018      | Visit and review of collaborative linkages maintained with the wildlife counterparts under DoFPS, MoAF                    |
| 4      | CNR-block week (field visit by the CNR trainees)  | 9-10/4/ 2018  | Field visit   |
| 5      | RNR-EC field staff – 1 <sup>st</sup> batch  | January 2018  | Field visit   |
| 6      | RNR-EC field staff – 2 <sup>nd</sup> batch  | June 2018     | Field visit   |

As the part of the curriculum, the final year Diploma students of CNR visit NVH every year to get a hands on training on various theoretical aspects of veterinary clinical services. A presentation was made on the background, mission, vision, mandates and various veterinary clinical services provided by NVH. They were divided in groups and provided with practical

demonstration on receiving clients, handling of patients, history taking, writing prescription, restraining of patients and providing treatments. They were also provided with practical demonstration of sterilization in pet animals.

Field staff from RNR-EC also visited NVH from various parts of the country. Presentation were made and they were also briefed on the various veterinary clinical services provided by NVH. Issues/ constraints faced in the fields and their way forwards/ solutions were discussed during their visits.

#### 6.2.4 MEMBERSHIPS

Most of the veterinarians of NVH are members to important offices which require collaborative and technical support from NVH. Current memberships of NVH to various offices are as given in the table below:

*Table 11: Memberships of NVH Veterinary Officers to other offices*

| <b>Sl. No</b> | <b>Memberships</b>  | <b>Focal members</b>                   |
|---------------|---|--|
| 1             | Country focal points for Animal welfare to OIE                                      | Dr. Kinley Dorji and Dr. Pema Tshewang |
| 2             | Drug Technical Advisory Committee (DTAC) member                                     | Dr. Jambay Dorji                       |
| 3             | Evaluation committee member for Dossier evaluation of veterinary medicines with DRA | Dr. Pema Tshewang                      |
| 4             | National Veterinary Drug Committee (Evaluation committee member)                    | Dr. Jambay Dorji                       |
| 5             | National Veterinary Drug Committee (Awarding committee member)                      | Dr. Kinley Dorji                       |
| 6             | Focal for Pharmacovigilance   | Dr. Meena Devi Samal                   |

### 6.2.5 JOB RESPONSIBILITIES/ FOCAL PERSONS FOR VARIOUS SERVICES AT NVH

For the smooth operations of various activities and efficient provision of services, focal persons were identified and appointed to take care of specific activities/ services at NVH (Table 12). By assigning job responsibilities and appointing focal persons, the efficiency of services is not only enhanced but the accountability, either during success or failure can easily be linked to an individual or a team. It also provides a sense of ownership to the individuals and thereby improve the overall performances.

*Table 12: Identified Focal persons for various units/ services at NVH*

| Sl. No | Name                 | Focal/ Job Responsibilities                                      |
|--------|----------------------|--|
| 1      | Dr. Kinley Dorji     | - Overall Management<br>- Mobile Highland Program                |
| 2      | Dr. Pema Tshewang    | - Animal welfare<br>- Cost Recovery Scheme<br>- Out Patient Unit |
| 3      | Dr. Jambay Dorji     | - SOPs<br>- In-Patient Unit<br>- Medicine                        |
| 4      | Dr. Meena Devi Samal | - Pharmacovigilance<br>- Surgery                                 |
| 5      | Dr. Nima Wangdi      | - Diagnostics (clinical & lab)<br>- EVDP                         |
| 6      | Tshering Yangchen    | - Medicine & Equipment Store<br>- Animal welfare                 |
| 7      | Sonam Zangmo         | - Mobile Highland program  |
| 8      | Gembo Tshering       | - Mobile Highland program  |
| 9      | Leela Maya Dahal     | - Vaccine  |
| 10     | Phuntsho Dema        | - SOPs/ Critical Care Unit                                       |
| 11     | Chimi Wangmo         | - Physiotherapy  |
| 12     | Tsheltrim Wangmo     | - Endoscopy/ Ultrasonography                                     |
| 13     | Neten Zangmo         | - Surgery  |
| 14     | Kinzang Pelden       | - Laboratory   |
| 15     | Pema Tshomo          |  |
| 16     | Punya Mata Sanyasi   |  |
| 17     | Tula Maya Sharma     | - General Administrative activities                              |
| 18     | Ludup Pelmo          | - Data Management (VIS/ Pet registration)<br>- Reception         |



## 6.2.6 PUBLICATION

NVH as the custodian of veterinary clinical services, is mandated to promote research activities related to veterinary clinical services. However, due to shortage of manpower and busy schedule, NVH has not been able to carry out research activities as mandated. During 2017-18, only one research article from NVH could be published in the Bhutan journal of Animal Science (Fig 4). In the coming years, NVH is hoping to publish more research articles related to veterinary clinical services.

BHUTAN JOURNAL OF ANIMAL SCIENCE

Dorji et al. (2017). Epidemiology of health problems in dogs. *Bhutan J. Anim. Sci.* 1 (1): 65-69.

Animal Health

# Epidemiology of health problems in dogs

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## ABSTRACT

In this study, we describe the epidemiology of the health problems in dogs brought to the National Animal Referral Hospital in Thimphu city from January 2009 to December 2013. During the period, a total of 5077 dogs with different health problems were referred to the hospital. Maximum number of cases were skin problems (30.7%), followed by GI tract disorders (18.6%), wound and abscess (8.9%), Parvo-Viral Enteritis (7.3%), animal welfare problems (dog bite wound – 6.0%, and injury due to running vehicles – 3.5%) and canine distemper (5.4%). A total of 273 canine distemper cases were presented to NAH, which constituted 5.4% of the total cases brought to the hospital. The prevalence of CD was highest in 2009 followed by 2011 and 2013. The CD cases were reported throughout the year with maximum cases reported in the month of July and September. Similarly, a total of 373 cases of PVE were presented to NAH, which represented 7.3% of the total cases. The prevalence of PVE was highest in 2009 followed by 2012. The PVE cases were presented throughout the year with the higher prevalence in the spring and early summer (March to June). Dog bite wound and injury due to running vehicles constituted 6.0% (305/5077) and 3.5% (180/5077) of the total cases presented to NAH, respectively. The prevalence of animal welfare problems in male dogs (12.0%) was higher than in the female dogs (8.6%). Similarly, the prevalence of animal welfare problems was higher in stray dogs than in the owned dogs. An increasing trend in the prevalence of animal welfare problems was noticed from 2009 to 2013 with the higher incidence of animal welfare problems in the month of April and May; and from September to December. The findings of this study provide useful information for preparing the drug indent (based on the disease information), which would help to reduce the wastage of drugs. The dog owners should be sensitized on the importance of vaccinating their dogs on common infectious diseases such as CD and CPV on a regular basis.

Fig 4: Abstract of the research article published in BJAS

## 7. APPENDIX

### 7.1 Photo Album for 2017-18



*\*Reception counter \*Consultation room \*Patient on a stretcher \*The busy treatment room*



*\*Operation Theater \*A massive 2kg tumour- removed! \*Saving the limb- bone pinning in a dog!*



*\*Wildlife treatment: tiger and a deer! \*Late night rescue & treatment of a horse with Jangsa*



*\*Physiotherapy: treadmill & USG machines*

*USG therapy in a patient*

*\* Monitoring a critical cat*

*\*Endoscopy in a patient*



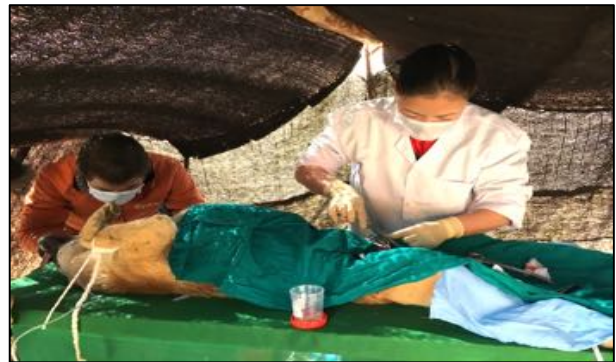
\*DTAC meeting



\*Dossier evaluation training with DRA



\*Advanced training for Adm Asst. at Chiangmai



*\*Judging in progress during a dog show & Sterilization during Royal highland festival 2017*



*\*Shetland ponies & Falabella bestowed to HRH The Gyelsay during His 2<sup>nd</sup> Birth Anniversary*

## 7.2 Budget utilization for NVH during 2017-18

| SAC<br>T | OBC                      | TITLE  | (Nu in Millions)   |              |              |              |        |
|----------|--------------------------|--|--|--------------|--------------|--------------|--------|
|          |                          |  | CURRENT  | Expenditure  | Balance      | %            |        |
| 01       |                          | ROGB Financing   |  |              |              |              |        |
|          | 1.01                     | Pay and allowances   | 4.599  | 4.599        | 0.000        | 100.00       |        |
|          | 2.01                     | Other personal emoluments  | 0.273  | 0.266        | 0.007        | 97.44        |        |
|          | 11.01                    | Travel – Incountry   | 1.435  | 1.434        | 0.001        | 99.93        |        |
|          | 11.02                    | Travel- Outside country  | 0.048  | 0.048        | 0.000        | 100.00       |        |
|          | 12.01                    | Utilities- telephone, telex, fax, email, internet                        | 0.080  | 0.039        | 0.041        | 48.75        |        |
|          | 12.02                    | Utilities- telegram, wireless transmission, postage                      | 0.004  | 0.004        | 0.000        | 100.00       |        |
|          | 12.03                    | Utilities- electricity, water, sewerage                                  | 0.106  | 0.106        | 0.000        | 100.00       |        |
|          | 14.01                    | S & M- office supplies, printing, publication                            | 0.185  | 0.185        | 0.000        | 100.00       |        |
|          | 14.02                    | S & M- medicines & laboratory consumables                                | 0.250  | 0.219        | 0.000        | 87.60        |        |
|          | 14.05                    | S & M- animal feeds  | 0.090  | 0.089        | 0.000        | 98.89        |        |
|          | 14.06                    | S & M- uniforms, extension kits, linens                                  | 0.146  | 0.138        | 0.008        | 94.52        |        |
|          | 15.01                    | Maintenance of property- buildings                                       | 0.100  | 0.093        | 0.007        | 93.00        |        |
|          | 15.02                    | Maintenance of property- vehicles  | 0.242  | 0.241        | 0.001        | 99.59        |        |
|          | 15.05                    | Maintenance of property- equipment                                       | 0.100  | 0.099        | 0.001        | 99.00        |        |
|          | 15.07                    | Maintenance of property- computers                                       | 0.020  | 0.010        | 0.010        | 50.00        |        |
|          | 17.01                    | Op.Exp.- Advertising   | 0.030  | 0.029        | 0.001        | 96.67        |        |
|          | 17.02                    | Op.Exp.-Taxes, duties, royalties, fees, handling charges, bank charges   | 0.035  | 0.030        | 0.005        | 85.71        |        |
|          | 17.08                    | Op.Exp.- Incountry meetings and celebrations                             | 0.075  | 0.074        | 0.001        | 98.67        |        |
|          | 24.03                    | Contributions- provident fund  | 0.421  | 0.417        | 0.004        | 99.05        |        |
|          | 52.01                    | Plant & equipment- telecommunications                                    | 0.161  | 0.161        | 0.000        | 100.00       |        |
|          | 54.04                    | Furniture  | 0.250  | 0.250        | 0.000        | 100.00       |        |
|          |                          |  | TOTAL  | 8.650        | 8.531        | 0.119        | 98.62  |
|          | 02                       |  | PROCUREMENT OF DIGITAL X-RAY, ULTRASOUND & GASEOUS ANESTHETIC MACHINE & TRAINING |              |              |              |        |
|          |                          |  |  |              |              |              |        |
|          | 03                       |  | STRENGTHENING AND ENHANCEMENT OF LABORATORY DIAGNOSTIC SERVICES                  |              |              |              |        |
|          |                          | 14.01  | S & M- office supplies, printing, publication                                    | 0.015        | 0.015        | 0.000        | 100.00 |
| 52.07    |                          | Plant & equip.- hospital/ lab equipment                                  | 0.004  | 0.000        | 0.004        | 0.00         |        |
|          |                          | TOTAL  | 0.019  | 0.015        | 0.004        | 78.95        |        |
| 04       |                          | ANIMAL HEALTH – DOG & CAT POPULATION MANAGEMENT & RABIES CONTROL PROGRAM |  |              |              |              |        |
|          |                          |  |  |              |              |              |        |
| 05       |                          | NATIONAL PHARMACOVIGILANCE CENTER FOR VETERINARY                         |  |              |              |              |        |
|          | 14.01                    | S&M- office, supplies, printing, publications                            | 0.010  | 0.003        | 0.007        | 30.00        |        |
|          | 14.02                    | S&M- medicines & laboratory consumables                                  | 0.030  | 0.000        | 0.030        | 0.00         |        |
|          | 17.08                    | Op.Exp.- Incountry meetings and celebrations                             | 0.070  | 0.069        | 0.001        | 98.57        |        |
|          |                          | <i>Total of FIC 0001</i>   | <i>0.111</i>   | <i>0.071</i> | <i>0.039</i> | <i>63.96</i> |        |
|          |                          | <i>Total of SAct 05</i>  | <i>0.110</i>   | <i>0.071</i> | <i>0.039</i> | <i>64.55</i> |        |
|          |                          | <i>Total of Act 001</i>  | <i>8.779</i>   | <i>8.617</i> | <i>0.162</i> | <i>98.15</i> |        |
|          |                          | <i>Total of SPrg027</i>  | <i>8.779</i>   | <i>8.617</i> | <i>0.162</i> | <i>98.15</i> |        |
|          |                          | <i>Total of Prg045</i>   | <i>8.779</i>   | <i>8.617</i> | <i>0.162</i> | <i>98.15</i> |        |
|          |                          | <i>Total of FO21</i>   | <i>8.779</i>   | <i>8.617</i> | <i>0.162</i> | <i>98.15</i> |        |
|          | <i>Total of Dept 03</i>  | <i>8.779</i>   | <i>8.617</i>   | <i>0.162</i> | <i>98.15</i> |              |        |
|          | <i>Total of AU204.01</i> | <i>8.779</i>   | <i>8.617</i>   | <i>0.162</i> | <i>98.15</i> |              |        |
|          |                          | <b>GRAND TOTAL</b>   | <b>8.779</b>   | <b>8.617</b> | <b>0.162</b> | <b>98.15</b> |        |

**KADRIN CHEY!**



**TASHI DELEK PHUENSUM TSHOK!**