ABBREVIATION USED:

ADR-*Adverse Drug Reaction*

ACTMPC-*Advisory Committee for Traditional Medicine Pharmacovigilance Centre*

DTMS- *Department of Traditional Medicine Services*

DRA- *Drug Regulatory Authority*

TM-*Traditional Medicine*

TMPC- *Traditional Medicine Pharmacovigilance Centre*

NTMH-*National traditional medicine hospital*

NPC-*National Pharmacovigilance Centre*

MSP- *Menjong Sorig Pharmaceuticals*

OTC-*Over the Counter*

OPD- *Out Patient Department*

WHO-*World Health Organization*

CONTENTS

1. Introduction

Pharmacovigilance is the science and activities relating to the detection, assessment, understanding and prevention of adverse effects of drugs or any other possible drug related problems.

Medicines have changed the way in which diseases are managed and controlled. However, despite all their benefits, evidence continues to mount that adverse reactions to medicines are a common, yet often preventable cause of illness, disability and even death. In some developed countries ADRs is amongst the leading causes of mortality and hospital admissions due to ADRs is more than 10% in some developed countries. We can only suspect that situation must be worst in developing countries due to lack of legislation & proper drug regulations, including ADR reporting, large number of substandard and counterfeit products circulating in their markets, a lack of independent information and the irrational use of drugs.

In addition to the cost of human lives and sufferings the suitable services to treat ADRs impose a high financial burden on health care due to the hospital care of patients with drug related problems. Some countries spent as much as 15-20% of their hospital budget dealing with drug complications.

Therefore, Pharmacovigilance is the science that has been developed to detect, assess, understand and prevent adverse effects of drugs or any other drug related problems. A very successful and well established Pharmacovigilance system in the country can contribute to the prevention of drug-induced human sufferings and avoid financial risks associated with unexpected adverse effects.

1.1 Rationale of Pharmacovigilance Centre for Traditional Medicines

Plants have been used for the treatment of illness in humans since prehistoric time. It is said that about 80% of the world's population currently depends solely on traditional medicines for managing their diseases. In recent years ADRs due to traditional herbal based medicines has been reported in various countries and particularly in developed countries where there are established Pharmacovigilance centre. There is an increase in rate of reports of ADRs from herbal medicines in many countries suggesting that there is a need for Pharmacovigilance of traditional medicines. The Pharmacovigilance for allopathic medicines is quite well established in many countries but it is not the case with traditional medicines. Most countries are only beginning to tackle this problem including WHO-Uppsala monitoring centre due to inherent complexities attached with the traditional medicines.

Here in Bhutan we all know that traditional medicine is an integral part of the National Health Care delivery system with its unique integrated health system. The importance of Pharmacovigilance of Adverse reactions of traditional medicines must be realized by all and a Pharmacovigilance in TMS is needed for the following reasons.

i. Traditional Drugs and Medicines used for thousands of years but not well documented with regard to their ADRS
ii. The complexity of ingredients makes it very difficult to carry out safety and toxicity study in animal studies (No preclinical studies data).

iii. Recent events with some of the patients suffering of ADRs from Traditional medicines
iv. Research and development of Traditional medicines
v. Making traditional medicines safer.
vi. Linking up with WHO-Uppsala monitoring centre in future if possible and strengthening Pharmacovigilance of Traditional medicines in the country

1.2 Aims of Pharmacovigilance Centre for Traditional Medicines at NTMH

1. Early detection of hitherto unknown ADRs and interactions due to traditional medicines and their interactions with allopathic drugs or other substances
2. Identification of risk factors and possible mechanisms underlying ADRs
3. Estimation of benefit/risk analysis and dissemination of information needed to improve drug prescribing and regulation
4. Promoting safe and rationale use of Traditional drugs
5. The assessment and communication of the risks and benefits of traditional drugs to the TMS, Drungtshos, health professionals and patients.
6. To become centre of excellence for traditional medicines related Pharmacovigilance activities and research.

1.3 Functions of Pharmacovigilance Centre for Traditional Medicines, NTMH

1. Collect ADR reports in the country
2. Establish ADRs database for traditional medicines
3. Assess and record ADR reports in a database
4. Generation of hypothesis or the identification of signals.
5. Further investigation of signals, risk factors or pharmacological mechanisms.
6. Share drug information on drug safety of traditional medicines with other drug information centers, DRA etc.
7. Disseminate information of drug safety to all the traditional health professionals/other health professionals/patients and Drug Regulatory Authority in the country
8. Provide information to patients on traditional drug safety and function as a traditional drug information unit in the future
9. Conduct Sensitization workshops/training on Pharmacovigilance for traditional health professionals
10. Coordinate the advisory committee meetings especially during serious ADRs and member secretary to advisory committee of TMPC
11. Conduct causality assessment
12. Coordinate with essential Traditional medicines committee on the selection and review of essential traditional medicines list based on ADRs reports and data for necessary recommendation for their inclusion or exclusion.
13. Provision of feedback to reporters

1.4 The Advisory Committee of Pharmacovigilance Centre for Traditional Medicines

The following will constitute the Advisory committee members for TM Pharmacovigilance centre

1. Medical Superintendent, NTMH, Chairman
2. Medical Specialist, NTMH

3. Sr. Drungtshos (1each from OPD, Laynga and Tshubched department, NTMH)
4. Sr. Menpa
5. Expert as an when required

1.5 Functions of ACTMPC (TM Pharmacovigilance Center's Advisory committee)

1. This committee will support the TM Pharmacovigilance center with regard to the quality of the procedures in:
   i. Data assessment
   ii. Interpretation of the data
   iii. Investigative studies on traditional medicines ADRs
   iv. Investigation of serious traditional medicines ADRs
   v. The publication of information related to traditional medicines ADRs
   vi. Recommendations to the Essential Traditional medicines committee for appropriate action
   vii. Recommendations for the TMPC

1.6 Reporting of ADRs to Pharmacovigilance Centre for Traditional Medicines, NTMH

The TMPC will institute mandatory reporting system in place due to the small number of population and to ensure that all ADRs resulting from traditional medicines are detected. All the Drungtshos/sMenpas or other health professionals in the country must report suspected traditional medicines ADRs to the Pharmacovigilance centre for Traditional medicines at TMS in duly filled ADR forms that will be made available for free to all the hospitals and health centers availing traditional medicine services. The patients and their caretakers/relatives may also wish to report suspected ADRs to the Pharmacovigilance centre at TMS directly or to their district Drungtshos/sMenpas who can then refer the reports to the TMPC. Further, the TMPC will be a centralized one and based in NTMH due to the size of the populations and the country as well as the resources required for such centres.

To ensure that there are consistent ADRs reporting to the centre, it is important to develop a positive attitude towards Pharmacovigilance among traditional health professionals/other health professionals so that ADR reporting becomes an accepted and understood routine. To encourage reporting the following arrangements and activities will be carried out by the centre.

- Easy access to pre-paid TMS ADRs reporting forms and other means of reporting
- Acknowledging the receipt of ADR reports by personal letter or phone call to the reporters
- Providing feedback to reporters on the ADRs reported
- Participation of the center's staff in pre-and postgraduate education and scientific meetings
- Collaboration with local drug or Pharmacovigilance committees
- Integration of Pharmacovigilance in the (further) development of traditional medicines in the country.

1.7 Management of the TMPC

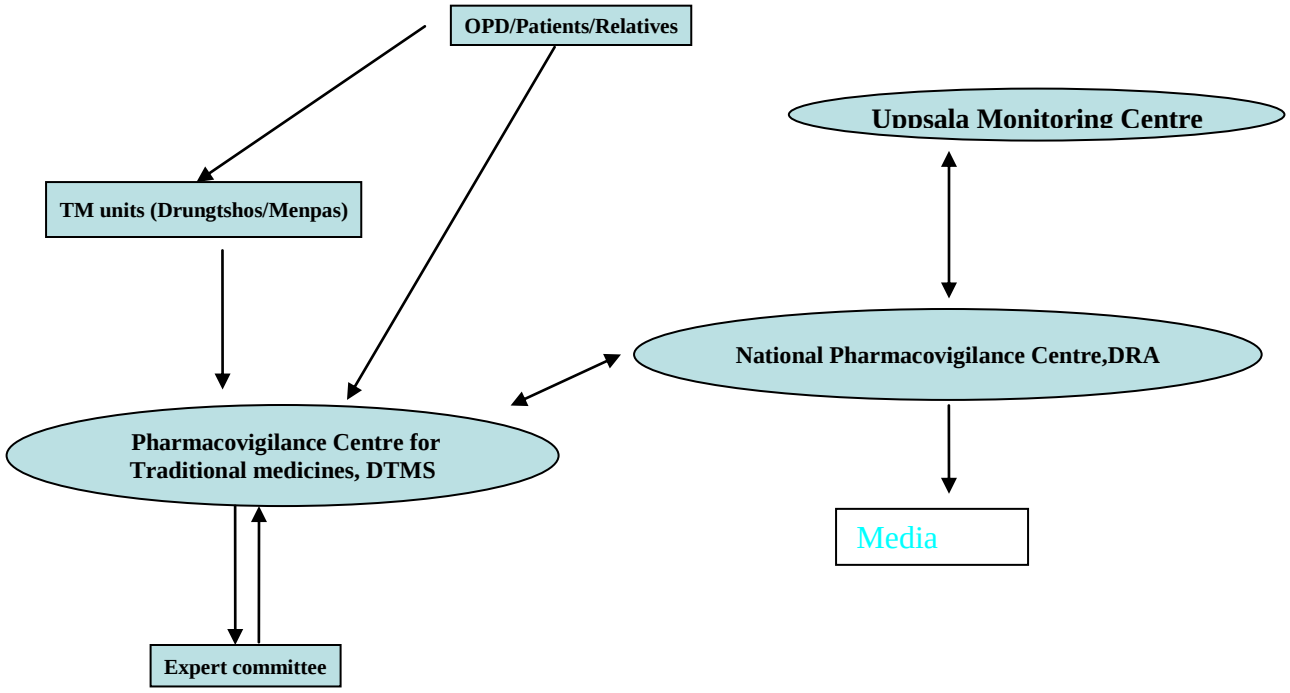
It will be managed by the following personnel

1. Traditional Medical Officer, Drungtsho (Pharmacovigilance Center Manager)

2. Drungtsho (Co-Manager)
3. Menpa Gom (Co-Manager)

In addition the Pharmacovigilance Centre in NTMH will be supported in its functions and activities by an expert technical advisory committee called the Advisory committee of Traditional Medicines Pharmacovigilance centre **(ACTMPC)**.

1.8 The Process flow of TMPC



2.0 GUIDE TO REPORTING

A. Who should report?

- Drungtshos
- sMenpas
- Allopathic health professionals if and when they encounter or suspect that the ADRs is due to traditional medicines or their interactions and any other health professionals.
- Clinical trial investigators/coordinators/researchers

B. What to report?

1. Suspected adverse reactions due to traditional medicines
2. Drug interactions of traditional medicines (with allopathic drugs or foods)
3. Quality defective traditional drugs
4. Lack of efficacy-where efficacy was expected
5. Lack of effect-potential counterfeits
6. Dependence and addiction of traditional drugs
7. Medication errors-dispensing errors
8. Interactions-not necessarily causing an AR
9. ADRs in risk groups like pregnant women, breastfeeding women, elderly, children etc.
10. Serious/unexpected ADRs
11. Other related problems due to quality, inappropriate use etc.

C. Where to report?

- Traditional Medicines Pharmacovigilance Centre (NTMH, DTMS) or DRA(NPC)

D. How to report?

- By filling in the Traditional medicines ADR forms and sending it to the centre (pre-postage paid ADR forms could be made available).
- fax to the centre for quicker response and action
- The reporting form may be downloaded from DRA website which can be filled and submitted to the centre

E. What will happen to your ADR report?

- Causality assessment will be done
- Reviewed by TMPC for further analysis/assessment

F. What are the benefits of your reports for you and your patients?

- Improvement in the quality of care
- Reduction in drug related problems
- Improved patient confidence in professional practice
- Improved knowledge
- Satisfaction for the fulfillment of a moral and professional obligation

G. Will reporting have any negative consequences on the health workers or the patients?

The outcome of the report would not constitute an admission that you or any other health professional contributed to or caused the event in any way. The names of the reporters will remain confidential. The information is only meant to improve our understanding on the safe use of medicines.

H. Why health professionals are in the best position to detect and report on ADRs?

The success of Pharmacovigilance solely lies on the active participation of all health professionals and more so by the traditional medicine practitioners (Drungtshos and Smenpas). They are in the best position to report because they can diagnose, prescribe, dispense and monitor patients' response to drugs.

I. Products to be covered

Anything herbal and traditional medicines with a therapeutic claim, including

1. Traditional medicines-prescription
2. Traditional and herbal OTC,
3. Herbal supplements

3.0 How to recognize ADRs

Since ADRs may act through the same physiological and pathological pathways as different diseases, they are difficult and sometime impossible to distinguish. However the following step-wise approach may be helpful in assessing possible drug-related ADRs

1. Ensure that the medicine ordered is the medicine received and actually taken by the patient at the dose advised;
2. Verify that the onset of the suspected ADR was after the drug was taken, not before and discuss carefully the observation made by the patient;
3. Determine the time interval between the beginning of the drug treatment and the onset of the event;
4. Evaluate the suspected ADR after discontinuing the drugs or reducing the dose and monitor the patient's status. If appropriate, restart the drug treatment and monitor recurrence of any adverse events.
5. Analyze the alternative causes (other than the drug) that could on their own have caused the reaction;
6. Use of relevant up-to-date literature and personal experience as a health professional on drugs and their ADRs and verify if there are previous conclusive reports on this reaction. The Traditional medicines Pharmacovigilance centre will be very important resource centre for obtaining information on traditional medicines ADR. The manufacturer of the drug can also be a resource to consult;
7. Report any suspected ADR to the person nominated for ADR reporting in the hospital or directly to the Traditional medicines ADR centre.

Annexure 1: SUSPECTED ADVERSE DRUG REACTIONS REPORTING FORM
CONFIDENTIAL

If you are suspicious that an adverse reaction may be related to a Traditional drug, a combination of Traditional drugs or a combination of Traditional drugs with other substances including allopathic drugs PLEASE COMPLETE THIS FORM and send it to the Pharmacovigilance Centre for Traditional Medicines at NTMH, DTMS. Tel: 322153/322154 Fax: 323012

PATIENT INFORMATION

PATIENT DETAILS*

Patient name or initials: _____ Age/Sex: _____

Weight (if known): _____ Ward/Department: _____

SUSPECTED DRUG (S)*

DRUG NAME	Indication	Manufactured by:	BATCH NO. (If known)	ROUTE	DOSE/ STRENGTH	DATE STARTED	DATE STOPPED

SUSPECTED DRUG REACTION (S) *

PLEASE DESCRIBE THE REACTION(s) & ANY TREATMENT GIVEN

Date reaction started: _____
Date reaction stopped: _____

OUTCOME
Recovered ☐
Recovering ☐
Continuing ☐
Others ☐

Do you consider the reaction to be serious: YES/NO

If YES, please indicate why the reaction is considered to be serious (please tick all that apply):

- ❑ Patient died due to reaction
- ❑ Involved or prolonged hospitalisation
- ❑ Life threatening
- ❑ Involved persistent or significant disability
- ❑ Congenital abnormality
- ❑ Medically significant, please give details:

OTHER MEDICATIONS (INCLUDING SELF MEDICATION AND HERBAL REMEDIES)

Did the patient take any other drugs prior to the reactions? YES/NO

If YES, please give the following information:

Drug name	Dosage	Route	Date started/stopped

ADDITIONAL RELEVANT INFORMATION

_____
_____
_____
_____
_____
_____

REPORTER DETAILS*

NAME: _____ DESIGNATION: _____

ADDRESS:_____
_____

CONTACT NO:_____ DATE: _____

SIGNATURE:_____