Measuring the availability of diclofenac and other NSAIDs using undercover pharmacy surveys

Background

Despite the banning of diclofenac for veterinary use throughout the Indian subcontinent, and elsewhere in Asia, the drug continues to be used on livestock. The main aims of the pharmacy surveys is to:

1) monitor the continued (illegal) availability of diclofenac for veterinary purposes;

2) assess to what degree its use has been replace by vulture-safe NSAID meloxicam; and

3) monitor which other veterinary NSAIDs, some of which are known (or suspected to be) toxic to vultures, are being offered to treat livestock.

Undercover (covert) surveys are necessary to uncover illegal behaviour. The selling of diclofenac for veterinary use is illegal; therefore, if surveyors were open about their motives, pharmacists would be unlikely to offer diclofenac, and we would get a biased picture of the true prevalence of its use on livestock.

Methods

A selection of settlements in which the surveys are to be carried out should be chosen randomly, ensuring good nationwide coverage. This can be carried out by means of stratified random sampling, whereby a country / region is divided in areas, and pharmacies are sampled randomly within each area. Only one pharmacy should be visited in each settlement to avoid pseudoreplication, i.e. patterns of drug availability due to close proximity to other pharmacies selling the same drugs.

Surveyors should pretend to be a livestock owner, and ask the pharmacist specifically for "**a painkiller for an injured cow**". No particular drug should be specified. The surveyor should then buy the **first** drug offered, whether it is a NSAID or not. If the pharmacist refuses to sell a drug for whatever reason, e.g. they don't stock them; lack of prescription, then this should be recorded and surveyors should move onto the next settlement.

The name, address and location of the pharmacy should be recorded; the use of GPS coordinates would allow the same pharmacy to be visited in future surveys. From the purchased drug, the following data should be collected (see example data sheet from Bird Conservation Nepal below; data should be transferred to an electronic database, e.g. Microsoft Excel, as soon as possible after data collection):

1) vial size; this is particularly important as all vials of diclofenac > 3 ml are illegal;

2) name and concentration (mg/ml) of the active drug; and whether it is injectable or in bolus-form;

3) brand name;

4) the manufacturing company; this will tell us whether a drug has been locally made or has been imported;

5) license and batch number;

6) manufacturing and expiry date; this is important to assess whether stocks of diclofenac held by pharmacies were made before the ban; and

7) price.

Bird Conservation Nepal
Vulture Conservation Programme
Under-covered Pharmacy Survey Form- 2012

UN:	Name of Shop:			Detail Address:	
Date:	Proprietor:			Contact No.	
Time:	GPS:	N-	E-	Elevation:	Surveyor:

NSAIDs	1	2	3	4	5	6	7	8
Name of NSAID (Trade Name)								
Active Ingredient(s)								
Concentration (mg/ml)								
Injectable or bolus								
Manufacturer & address								
License number								
Batch number								
Manufacture date								
Expiry date								
Strip/vial size								
Price per Strip/vial								
Stock Quantity								

NB: It is possible to record more than one NSAID on this sheet, as the form is also used during OPEN pharmacy surveys, whereby all NSAIDs stocked by a pharmacy are recorded, and which are carried out at the same time as advocacy and education about the vulture programme. However, it is vitally important that UNDERCOVER surveys are carried out to obtain an unbiased picture of the availability of diclofenac and other NSAIDs.