

# **CHAPTER:1**

# **DRUG UTILISATION REVIEW**

**BY**

**Mrs. K.SHAILAJA., M. PHARM.,  
LECTURER**

**DEPT OF PHARMACY PRACTICE,  
SRM COLLEGE OF PHARMACY**

- \* ***Drug use evaluation (DUE)** is a system of ongoing, systematic, criteria-based evaluation of drug use that will help ensure that medicines are used appropriately (at the individual patient level).*
- \* ***Drug utilization review (DUR)** is defined as an authorized, structured, ongoing review of prescribing, dispensing and use of medication.*
- \* *A DUE is drug- or disease-specific and can be structured so that it will assess the actual process of prescribing, dispensing or administering a drug (indications, dose, drug interactions, etc.). DUE is the same as **drug utilization review (DUR)** and terms are used synonymously.*
- \* *It involves a comprehensive review of patients' prescription and medication data before, during and after dispensing to ensure appropriate medication decision-making and positive patient outcomes*

*\* DUR is classified in three categories:*

- ***Prospective*** - *evaluation of a patient's drug therapy before medication is dispensed.*

*\*This process allows the pharmacist to identify and resolve problems before the patient has received the medication.*

*\* Issues Commonly Addressed by Prospective DUR:*

- *Clinical abuse/misuse*
  - *Drug-disease contraindications (when a prescribed drug should not be used with certain diseases)*
  - *Drug dosage modification*
  - *Drug-drug interactions (when two or more different drugs interact and alter their intended effects, often causing adverse events)*
  - *Drug-patient precautions (due to age, allergies, gender, pregnancy, etc.)*
  - *Formulary substitutions (e.g., therapeutic interchange, generic substitution)*
  - *Inappropriate duration of drug treatment*

## ***2. Concurrent DUR:***

*\* Concurrent review is performed during the course of treatment and involves the on-going monitoring of drug therapy to foster positive patient outcomes.*

*\*It presents pharmacists with the opportunity to alert prescribers to potential problems and intervene in areas such as drug-drug interactions, duplicate therapy, over or underutilization and excessive or insufficient dosing*

### ***\*Issues Commonly Addressed by Concurrent DUR:***

- Drug-disease interactions*
- Drug-drug interactions*
- Drug dosage modifications*
- Drug-patient precautions (age, gender, pregnancy, etc.)*
- Over and underutilization*
- Therapeutic Interchange*

### **\* 3. Retrospective DUR:**

*\* A retrospective DUR reviews drug therapy after the patient has received the medication.*

*\*A retrospective review aims to detect patterns in prescribing, dispensing or administering drugs.*

*\*Outcomes of this review may aid prescribers in improving the care of their patients, either individually or within a certain target population (e.g., patients with diabetes, asthma, or high blood pressure).*

#### *\* Issues Commonly Addressed by Retrospective DUR:*

- *Appropriate generic use*
- *Clinical abuse/misuse*
- *Drug-disease contraindications*
- *Drug-drug interactions*
- *Inappropriate duration of treatment*
- *Incorrect drug dosage*
- *Use of formulary medications whenever appropriate*
- *Over and underutilization*
- *Therapeutic appropriateness and/or duplication*

# *The steps of a DUE:*

*The steps of a DUE are as follows.*

## ➤ *STEP 1: Establish responsibility*

*It is the responsibility of the DTC to establish procedures for the implementation of a DUE programme; this includes appointing a responsible member of the DTC or a subcommittee to monitor and supervise the DUE process in the hospital or clinics.*

## ➤ *STEP 2 :Develop the scope of activities and define the objectives*

*The DTC should decide upon the objectives of the DUE and the scope of the activities necessary. The scope can be very extensive or it can focus on a single aspect of drug therapy and will depend upon the type of problem identified.*

## ➤ *STEP 3: Establish criteria for review of the medicine*

*Establishing DUE criteria is extremely important, and is the responsibility of the DTC.*

*DUE criteria are statements that define correct drug usage with regard to various components for the use of any medicine should be established using the hospital's STGs*

*In the absence of hospital STGs, criteria may be based on recommendations from national or other locally available satisfactory drug use protocols, other relevant literature sources, and/or recognized international and local experts*

***Components of drug use for DUE criteria:***

- ***uses:*** appropriate indication for drug, absence of contraindications
- ***selection:*** appropriate drug for clinical condition
- ***dosing:*** indication-specific dosing, intervals and duration of treatment
- ***interactions:*** absence of interactions - drug-drug, drug-food, drug-laboratory
- ***preparation:*** steps involved with preparing a drug for administration
- ***administration:*** steps involved in administration, quantity dispensed
- ***patient education:*** drug and disease-specific instructions given to patients
- ***monitoring:*** clinical and laboratory
- ***outcome, for example:*** decreased blood pressure, blood glucose, asthma attacks

➤ **STEP 4: Data collection**

*Data may be collected **retrospectively**, from patient charts and other records, or **prospectively**, at the time a medicine is prepared or dispensed.*

*Retrospective data collection may be quicker and is best accomplished away from the patient care areas and distractions.*

*The advantage of a prospective review is that the reviewer can intervene at the time the medicine is dispensed to prevent errors in dosage, indications, interactions or other mistakes.*

➤ **STEP 5: Data analysis**

*Data are tabulated in a form that corresponds to the criteria chosen for the DUE.*

*The percentages of cases that meet the threshold for each criteria should be calculated and summarized for presentation to the DTC.*

*A report of all DUE programmes that are being conducted should be prepared on a quarterly basis*



## ➤ *STEP 6 :Feedback to the prescribers and making a plan of action*

*After information is presented (for example on inappropriate drug use or unacceptable patient outcome), the DTC should develop conclusions about the differences between actual and desired results.*

*Recommendations should include specific steps to correct any drug use problem that is evident from performing the DUE.*

*Interventions to improve drug use would include feedback to the prescribers and may also include:*

- education, for example letters, in-service education, workshops, newsletters, face-to-face discussions*
- institution of drug order forms*
- institution of prescribing restrictions*
- changing the formulary list and/or manual*
- changing the standard treatment guidelines*
- using another DUE or continuing the present one.*

## ➤ **STEP 7 :Follow-up**

*In every DUE, follow-up is critical to ensure appropriate resolution of any problems.*

*As a part of a follow-up plan the DTC must assess the need to continue, modify or discontinue the DUE*