

CHAPTER: 1

DRUG UTILISATION REVIEW

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- * ***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