

## COST-EFFECTIVENESS ANALYSIS

### Learning outcome

Learners will be able to define the term and give the reason for its use. (It provides a systematic and transparent framework by which to assess the *relative costs* and consequences of different interventions. It can be used when the *treatment-outcomes are similar in nature, but different in volume.*)

### Range statement

Middle- and top-level managers will be able to describe the use of this type of analysis to first-level managers and give appropriate examples to support their explanation.

### Assessment criteria

- (1) Explaining the most common ways in which the 'benefits' are expressed, for example, in life-years gained; in terms relating to physiology, mortality and morbidity.
- (2) Explaining the 'problems' often encountered in analyses of cost-effectiveness, for example, the measurability of programmes and strategies, and the indirect as well as the direct costs over time which have to be calculated or estimated.
- (3) Explaining this type of analysis by illustrating with examples, for instance:

$$\text{Cost per deaths prevented} = \frac{\text{Annual programme costs}}{\text{-----}}$$

$$\begin{aligned} & \text{Case fatality rates (5,0\%)} \times \text{efficiency of vaccine(85,0\%)} \\ & \text{number of people vaccinated} = 3,600 \times \text{probability of} \\ & \quad \text{contracting disease ( 5,0\%)} \\ & = 7,65. \text{ This is the number of deaths prevented.} \end{aligned}$$

To obtain the effectiveness ratio, the cost of the annual programme, for example R100 000, is divided by the number of deaths averted, for example, R100 000 divided by 7,65 = R13,07.

- (4) Comparing the example explained with the effectiveness in costs of another strategy for averting the same number of deaths.

### Specific outcome

Learners will be able to explain the difference between cost-effectiveness analysis and cost-benefit analysis.

## **Critical outcome**

Learners will be able to:

- (1) describe the indexes used to measure the 'effectiveness' of the programme
- (2) explain the *formula* used in this type of analysis