DECISION ANALYSIS AND COST OF THE MEDICAL TREATMENTS
THE CASE OF THE LOW MOLECULAR WEIGHT HEPARINS IN FRANCE

R Launois1,2, I Gerlier1
(1) REES France, PARIS (France) (2) Université de Paris XIII, BOBIGNY (France)
Résenct d’Évaluation en Economie de la Santé (REES France)

INTRODUCTION : The aim of the study is to emphasize the need of a global economic approach in France taking into account both hospital and ambulatory costs when comparing the price of two drugs from the decision makers view point. When comparing the price of two drugs, the results could change according to the segment considered. As an example we considered the first two Low Molecular Weight Heparins (LMWH) in terms of market share in France: enoxaparin and tinzaparin.

OBJECTIVES : To evaluate and to compare the costs of enoxaparin and tinzaparin from the ambulatory point of view and from the whole society.

DATA & METHODS

Different market shares for enoxaparin and tinzaparin sales

Enoxaparin and tinzaparin have two indications: preventive and curative; they can be sold on the ambulatory market or at the hospital.

Unit price of syringes $c_i$

Enoxaparin is sold at a very low price in hospitals whereas tinzaparin is expensive for this market.

Unit ambulatory price (Journal Officiel 2002 and 20031).

Unit hospital price (source catalogues AP-HP 2003):

Decision Tree

Comparison of average total costs $AC$ of products in all the indications:

with $\pi_i$ the weight of the indication in the product sales.

BUT it is necessary to take into account the number of syringes prescribed per day.

Costs units

Daily total Cost (DTC) : price weighted by the number of syringes per day.

It is a unit cost except for curative enoxaparin which needs 2 syringes ⇒ weighting by 2

$1000 \text{ UI of anti-factor Xa activity cost}$: ratio of a unit syringe price on the quantity of product UI multiplied by 1000

RESULTS

Sensitivity Analysis

To modify the distribution of enoxaparin between ambulatory and hospital care until its DTC reaches the tinzaparin one from a societal point of view.

To obtain an equivalent Daily Total Cost between enoxaparin and tinzaparin

⇒ For preventive dosage, the enoxaparin ambulatory market share should be multiplied by 1.875. This implies a 75% market share of enoxaparin sales in ambulatory care instead of 40%.

⇒ For curative dosage, the enoxaparin ambulatory market share should be multiplied by 2.171. That means it represents 76% of the enoxaparin sales in ambulatory care instead of 35%.

CONCLUSION : Segmentation of the health care system and practice of different prices according to the type of markets (ambulatory, hospital) prevent the public decision-makers from having a clear view of the real cost of the drugs from a societal point of view.
