A MODEL FOR ECONOMIC EVALUATION OF A NEW PHARMACEUTICAL PRODUCT

Z.Pawłowska, A.Grabowski, R.Kosiński
and Polish Group of Social Economic Studies, AIMS
Central Institute for Labor Protection - National Research Institute, Warsaw, Poland

Introduction
An important factor influencing decisions on introducing a new pharmaceutical product is economic and social impact of a new therapy. A numerical model has been developed to assess this impact.

Method
A method of economic evaluation of a new pharmaceutical product used in the model is a cost – benefit analyse. Costs related to a disease after introducing a new medical treatment, in which new drugs will be used, have been compared with the costs of the disease with traditional treatment.

The costs of the disease include both direct and indirect costs and are calculated for the three types of stakeholders: individuals and their families, employers and society (Fig.1).

Results
Application of the model for evaluating the socio – economic impact of the MAB therapy of rheumatoid arthritis in Poland

Total cost of rheumatoid arthritis in Poland in 2006 have been estimated at app. 1,1 thousands millions Euro and amounted app. 0,4% GDP. App. 64% of the total cost was born by the ill persons and their families (Fig.2).

![Figure 2. Total costs of rheumatoid arthritis in Poland (forecast)](image)

In the case of traditional therapy (used currently) this cost will grow slightly in the next years: from less than 0,2% to more than 1% each year (Fig. 3).

![Figure 3. Total costs of rheumatoid arthritis in Poland (forecast)](image)

Cost borne by the individuals and their families in 2006 have been estimated at app. 0,7 thousands millions Euro. The average cost related to the illness per ill person and their family is estimated to be 3,5 thousands Euro yearly.

The grows in the cost of individuals and their families is estimated to be 0,5 – 0,6% each year (Fig.4). Introducing the therapy with monoclonal antibodies can result in the decreasing this cost by app. 10% each year after 5 years.

![Figure 4. Cost borne by the individuals and their families (forecast)](image)

Cost of rheumatoid arthritis borne by the society in 2006 has been estimated at more than 350 thousands million Euro. According to the forecast this cost will be lower in the next 5 years (decreasing app. 1% per year) and then the growing tendency is expected (Fig. 5). Introducing the MAB therapy would result in lowering this cost by 10 – 15% each year after 5 years.

![Figure 5. Cost borne by the society (forecast)](image)

Cost borne by employers amounted app. 8% of the total cost of rheumatoid arthritis in 2006 (more than 40 million Euro). According to the forecast the declining tendency is expected in the next 5 years and then this cost will grow again. Introducing the new therapy could lower this cost by app. 10 – 20% (Fig. 6).

![Figure 6. Cost borne by employers (forecast)](image)

Conclusions:
The developed model for assessing economic impact of a new pharmaceutical product can be an effective tool supporting decisions on introducing the product to the market.