

Hospital Activities and Cost Matrices and their Models

Topic: Enterprise-related input-output analysis

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Enterprise input-output has been the subject of IO research for many years now. We propose to use this structure in the modelling of health services at public hospitals. The activity at hospitals generates enormous amounts of information of all types. Putting this information together in a way that facilitates the preparation of simulation models is the aim of this paper. As far as we know, this effort has not been previously undertaken.

The input-output tables offer a perfect basis to such analysis. Final demand represents all the health services provided by the reference hospital. The users of these services are divided by gender and age. We classify the sanitary services using the categories used in the hospital to identify the type of sanitary service provided. We identify each service provided by the hospital and describe its cost structure. There are four main types of activities, those directly provided to patients, intermediate activities (e.g. clinical analysis), and structural activities (cleaning activities). Each of them provide certain services that are used by both the activities that provide directly services to patients and those, which do not. The different services also incorporate external goods and services and labor. The resulting Hospital Activity and Cost Matrix (HACM) can serve as basis of the typical demand and price input-output models. We have prepared the HACM of a concrete hospital in Spain, having a budget of around 300 Mill. USD, to show a concrete application. We believe the availability of HACMs would enhance the economic modelling possibilities in the health sector. We believe it can also serve as the basis of different types of efficiency analysis.