CONFERENCE ABSTRACT

Impact of a long-term policy on mental health system performance and stability: the case of Bizkaia (Basque Country, Spain)

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Decision support systems utilization may improve decision-making processes for management and planning of mental health systems. System performance can be assessed by using many objective indicators like: Relative Technical Efficiency (RTE), stability and entropy. These indicators summarize resource availability, their use and results as a real balance of inputs and outputs. Nevertheless, indicator assessment in mental health systems is difficult because it is not easy to obtain data, to interpret results and to translate the information into practice. The present mental health decisional framework requires better ways of management for allocating scarce resources and improving outcome production.

The objective of this contribution is to assess the RTE, stability and entropy 2012-2015 variations as a consequence of a long-term policy developed by the Mental Health Network of Bizkaia (Basque Country, Spain).

The Mental Health Network of Bizkaia is structured by nineteen small health areas. In these areas, mental health services were standardized according to the DESDE-LTC codification system. The following main types of care residential, day and outpatient were identified. In the analysis, 57 variables were included. They were classified in resources –inputs- (availability, placement and workforce capacity) and results –outputs- (service utilization, readmissions, discharges and length of stay).

A hybrid model, that integrates (in a decision support system) statistical, operational and artificial intelligence (to include expert knowledge) techniques, has been used to calculate the indicators. The main statistical procedure was a Monte-Carlo simulation engine to include the environmental uncertainty. The data envelopment analysis, operational technique, was used to assess the RTE. Finally, a prototype of fuzzy inference engine was necessary for interpretation the expert knowledge from the basic community mental health care model. The stability was calculated by analyzing the frequency distributions of the RTE and, finally, the Shannon's entropy is an estimation of system disorder. The main structure characteristics of the real long-term policy was identified by using structured interviews to senior managers and planners of Mental Health System of Bizkaia.

Results provided information about the variations of the selected indicators throughout three years. The impact of the policy developed can be considered positive but the stability remains poor so

new real interventions have to take into account that small changes in data values can result in a big change, positive or negative, in the indicators ´ value.

The methodology presented can be considered adequate for assessing mental health systems performance. Variations in the indicator values can also be considered as a consequence of the policy impact and, due to that, the decision support system could analyze the evolution of the system. As future research, it is suggested to analyze indicator variations throughout the time span and assess the impact of new organizational interventions and policies. The community mental health care model provides a better service performance and, in consequence, mental health care provision.