PULMONARY VENTILATOR EVALUATION MODEL:
TECHNOLOGY USAGE PHASE

The Health Technology Assessment (HTA) system has been used mainly in the process of acquiring medical care equipment (EMAs) in public health systems. More recently, a more feasible simplified ATS model called the Mini-ATS has been proposed, which has been incipiently applied to EMAs. In addition, there is no identification in the literature of a model for the evaluation of medical care equipment in the use phase, when technical and economic aspects coupled with ensuring patient safety are important for the management of the technology park. Thus, our NATS designed the MATSAM model a Mini-ATS modified by the insertion of Multivalent Analysis, with the possibility of application to both medical assistive support equipment (EAMAs) and EMAs. The focus of this work is to present a systematic evaluation of the pulmonary ventilator’s performance using the MATSAM model. The initial motivation was to solve the problem of renovation of a lung ventilator park. Based on data and information related to the perspectives Technology, Human Resources and Infrastructure (input variables), a set of indicators related to the equipment in its use phase was identified. These indicators were scored to indicate the intensity of the Performance, Quality, Cost and Risk vectors (verification variables). Through the application of multivalent analysis, quantification was obtained for the outcome classes Effectiveness, Safety and Economy, which constitute the output variables. The proposed model proved to be easy to apply and was used for both a public hospital and a company providing equipment leasing services. It has also proved to be a useful tool for managers to identify the strengths and weaknesses of both the evaluated technology and its management, and thus direct continuous improvement actions to ensure the effective, safe and economical use of the technology park.

KEYWORDS: Mini-ATS, Pulmonary Ventilation, Utilization Phase, Medical Assistance Equipment.