

An Extension of the Real Option Approach to the Evaluation of Health Care Technologies: The Case of Positron Emission Tomography

Abstract:

This paper aims to incorporate option values into the economic evaluation of Positron Emission Tomography (PET). The installation of this equipment requires a substantial capital outlay, while uncertainty, especially regarding the possibility of new applications, is relevant, because the evidence available is still insufficient. Treating the number of examinations to provide as a stochastic variable, the cost-effectiveness analysis is extended to include the value of flexibility both with respect to the timing of investment and to the size of the project. The threshold values of the stochastic variable that ensure the cost-effectiveness of a PET scan according to this approach are obtained as a function of the value of the incremental effectiveness.