Feasibility Study for a Robotic Laparoscopic Surgical System in a Greek Public Hospital

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Abstract

Robot Assisted Laparoscopic Surgery (RALS) is a rapidly evolving field and has seen significant advances in recent years. This new technology presents potential advantages in many procedures, compared to traditional open surgery and manual laparoscopic surgery. However, to justify the use of a robotic laparoscopic surgical system by a healthcare unit, the undoubted technical advantages it offers should be translated into improved clinical outcomes, safety and sustainability. The Institute of Biomedical Technology (INBIT) undertook a project to evaluate the feasibility of acquiring such a system by a Public Sector Hospital in Greece. This analysis included the description of the examined technology, its fields of application and the potential and conditions of its utilization. Aspects of the technology such as acquisition, use and maintenance costs were reviewed alongside public health sector data related to the estimated use, to check its sustainability. At the same time, a review study was carried out to compare clinical results of robotic surgery with traditional operation methods based on existing literature. Considering this comparison, alongside the economic data, a cost-benefit estimation of the technology under consideration was carried out. Additionally, safety issues of RALS are examined based on international recalls on robotic surgical systems and relevant studies. Finally, comments are made on the procurement strategy to be followed.

Keywords: laparoscopic robotic systems, robot assisted laparoscopic surgery

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