

Development of a Methodology for Surgery Planning and Control: A Management Approach to Handle the Conflict of High Utilization and Low Overtime

Authors : Timo Miebach, Kirsten Hoeper, Carolin Felix

Abstract : In times of competitive pressures and demographic change, hospitals have to reconsider their strategies as a company. Due to the fact, that operations are one of the main income and one of the primary cost drivers otherwise, a process-oriented approach and an efficient use of resources seems to be the right way for getting a consistent market position. Thus, the efficient operation room occupancy planning is an important cause variable for the success and continued the existence of these institutions. A high utilization of resources is essential. This means a very high, but nevertheless sensible capacity-oriented utilization of working systems that can be realized by avoiding downtimes and a thoughtful occupancy planning. This engineering approach should help hospitals to reach her break-even point. Firstly, the aim is to establish a strategy point, which can be used for the generation of a planned throughput time. Secondly, the operation planning and control should be facilitated and implemented accurately by the generation of time modules. More than 100,000 data records of the Hannover Medical School were analyzed. The data records contain information about the type of conducted operation, the duration of the individual process steps, and all other organizational-specific data such as an operating room. Based on the aforementioned data base, a generally valid model was developed by an analysis to define a strategy point which takes the conflict of capacity utilization and low overtime into account. Furthermore, time modules were generated in this work, which allows a simplified and flexible operation planning and control for the operation manager. By the time modules, it is possible to reduce a high average value of the idle times of the operation rooms. Furthermore, the potential is used to minimize the idle time spread.

Keywords : capacity, operating room, surgery planning and control, utilization

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