

Title: Reduce waiting for a diagnostic service: Exploring demand and supply characteristics in a nuclear therapeutic and diagnostic clinic in the Netherlands.

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Purpose – The purpose of this study is to explore the capacity planning and control of a diagnostic clinic in order to increase speed and the level of utilization with respect to the current capacity level. Specifically the influence of patient categorization, demand variability, work design and supply variability on capacity planning and control is investigated.

Design/ methodology/ approach – The current study was made in the context of discovery and exemplification. With time study preparation times, set-up times, cool down times, scan times, and scan room times of 75 patients were analyzed. The care related activities of nuclear workers are analyzed by applying the work sampling method which included 977 frequencies for analysis.

Findings – FDG wholebody examinations take less time than is actually planned and the weight of patients significantly influence the examination times. Heavy weighted patients' costs more camera time than low weighted patients. Nuclear workers spend on average 34% on care related activities like preparing a patient, scanning a patient, picking-up patient, data processing and reading the patients' record. Surprisingly, the majority of time is spend on other activities, frequently on administration, discussions, and own time.

Practical implications – Managers of diagnostic imaging centers can actively use capacity planning and control as a tool to reduce the waiting times and increase the utilization levels with respect to the current capacity level. By specializing tasks of nuclear worker, scheduling breaks and preparation times in advance and apply realistic examination times for scheduling based on weight groups the operational performance can be significantly improved.

Originality/ value – The results of this paper contribute to an efficient use of the current capacity and to more promptly diagnostic imaging which is essential for cancer patients for optimal treatment.

Key words – Diagnostic imaging, Capacity planning, Waiting time, Utilization