

	Ambulatory care services E.g. outpatient clinics, primary care service, radiology, radiotherapy	Emergency care services E.g. hospital emergency departments, ambulances, trauma centres	Surgical care services E.g. operating theatres, surgical daycare centres, anaesthesia facilities	Inpatient care services E.g. intensive care units, general nursing wards, neonatal care units	Home care services E.g. medical care at home, housekeeping support, personal hygiene assistance	Residential care services E.g. nursing homes, rehabilitation clinics with overnight stay, homes for the aged
Strategic	Regional coverage Service mix Case mix Panel size Capacity planning	Regional coverage Service mix Ambulance district Capacity planning Facility layout	Regional coverage Service mix Capacity planning Facility layout	Regional coverage Service mix Capacity planning Facility layout	Placement policy Regional coverage Service mix Case mix Capacity planning	Placement decision Regional coverage Case mix Capacity planning
Tactical	Patient routing Capacity allocation Capacity change Access policy Scheduling	Patient routing Admission control Staff-to-shift scheduling	Patient routing Capacity allocation Admission control Staff-to-shift scheduling	Bed reallocation Tmp bed capacity change Admission control	Capacity allocation Admission control Staff-to-shift scheduling	Admission control
Operational	Patient-to-appointment Staff-to-shift assignment	Ambulance dispatch/relocation Facility selection Treatment planning & priority	Surgical case (re)scheduling Emergency case scheduling Staff rescheduling	Admission scheduling Patient-to-bed assignment Discharge planning	Assessment and intake Staff-to-shift assignment Visit (re)scheduling	Treatment scheduling



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Review Article

Taxonomic classification of planning decisions in health care: a structured review of the state of the art in OR/MS

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Abstract

We provide a comprehensive overview of the typical decisions to be made in resource capacity planning and control in health care, and a structured review of relevant articles from the field of Operations Research and Management Sciences (OR/MS) for each planning decision. The contribution of this paper is twofold. First, to position the planning decisions, a taxonomy is presented. This taxonomy provides health care managers and OR/MS researchers with a method to identify, break down and classify planning and control decisions. Second, following the taxonomy, for six health care services, we provide an exhaustive specification of planning and control decisions in resource capacity planning and control. For each planning and control decision, we structurally review the key OR/MS articles and the OR/MS methods and techniques that are applied in the literature to support decision making.

Keywords: health care management operations research management science resource capacity planning literature review

