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The state of the art of nurse rostering. (English) Zbl 1154.90422

J. Sched. 7, No. 6, 441-499 (2004).

Summary: Nurse rostering is a complex scheduling problem that affects hospital personnel on a daily basis all over the world. The need for quality software solutions is acute for a number of reasons. In particular, it is very important to efficiently utilise time and effort, to evenly balance the workload among people and to attempt to satisfy personnel preferences. A high quality roster can lead to a more contented and thus more effective workforce. In this review, we discuss nurse rostering within the global personnel scheduling problem in healthcare. We begin by briefly discussing the review and overview papers that have appeared in the literature and by noting the role that nurse rostering plays within the wider context of longer term hospital personnel planning. The main body of the paper describes and critically evaluates solution approaches which span the interdisciplinary spectrum from operations research techniques to artificial intelligence methods. We conclude by drawing on the strengths and weaknesses of the literature to outline the key issues that need addressing in future nurse rostering research.

MSC:

90B35 Deterministic scheduling theory in operations research

Cited in **127** Documents

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