Nurse rostering with soft constraints : Evidence from chilean mid-size health care centers

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Nurse rostering deals with the shifts arrangements of nursing staff in the daily operation of health care centers. The design of suitable rosters for nurses is known to be particularly complex due to the number of interrelated requirements that must be considered. The literature reports a wide list of works devoted to solve such a problem. The techniques used range from classic methods such as linear programming to more modern incomplete methods such as evolutionary computing. However, most works are centered on the performance of techniques for solving well-known instances of nurse rostering. In this paper, we focus on a real case study of nurse rostering. The solution is devoted to a set of mid-size Chilean hospitals that use a very uncommon shift pattern due to proper country legal regulations. We present a new model involving hard and soft constraints that can be applied generically to any chilean health care center.

Soft constraint

Computer programming

Constraint theory

Heuristic algorithms

Information systems

Laws and legislation

Nursing