護理人員排班程式設計與實作

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摘要

Nurse rostering is a problem faced by every head nurse every month. Whether shift tables are arranged according to capabilities of nurses and their demands are matters regarding quality of nursing service, patient's safety and morale of personnel at work. Thus, the design of nurse rostering software is a practical and important issue. To realize computer software to create an efficient and highly satisfying nurse rostering is the objective of this study.

For domestic hospitals, because of differences in shifts, demands and arrangements, it is difficult to introduce directly domestic and foreign rostering systems. Therefore, nurse rostering in the country is mostly done manually. We hope to understand the differences in arrangements and demands of nurses to apply algorithmic designing skill such as hill-climbing method, Divide-and-conquer and backtracking in realizing nurse rostering programs and conduct tests using actual data from a medical center located at the midland. We found that program rostering was better than manual rostering when we went against variances of limited times and night shifts and days on leave. Furthermore, rostering program can come up with a nurse rostering in approximately 10-20 minutes, which is also better than manual rostering. In addition, the program can read the shift tables directly, allowing good feasibility of fast access. The results indicate that hill-climbing method, Divide-and-conquer and backtracking designing skills are beneficial for the application of nurse rostering. For the convenience of users, shift table presentation and self-trimming in the operation of system will be strengthened in the future to enhance system practicability and increase flexibility of operation for users.

關鍵字：nurse rostering, hill-climbing method, backtracking