

## Predicting Medical Check-Up Patient Re-Coming Using Sequential Pattern Mining and Association Rules

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**Abstract :** As the increasing of medical check-up popularity, there are a huge number of medical check-up data stored in database and have not been useful. These data actually can be very useful for future strategic planning if we mine it correctly. In other side, a lot of patients come with unpredictable coming and also limited available facilities make medical check-up service offered by hospital not maximal. To solve that problem, this study used those medical check-up data to predict patient re-coming. Sequential pattern mining (SPM) and association rules method were chosen because these methods are suitable for predicting patient re-coming using sequential data. First, based on patient personal information the data was grouped into ... groups then discriminant analysis was done to check significant of the grouping. Second, for each group some frequent patterns were generated using SPM method. Third, based on frequent patterns of each group, pairs of variable can be extracted using association rules to get general pattern of re-coming patient. Last, discussion and conclusion was done to give some implications of the results.

**Keywords :** patient re-coming, medical check-up, health examination, data mining, sequential pattern mining, association rules, discriminant analysis

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