

## Analyzing Medical Workflows Using Market Basket Analysis

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**Abstract :** Healthcare domain, with the emergence of Electronic Medical Record (EMR), collects a lot of data which have been attracting Data Mining expert's interest. In the past, doctors have relied on their intuition while making critical clinical decisions. This paper presents the means to analyze the Medical workflows to get business insights out of huge dumped medical databases. Market Basket Analysis (MBA) which is a special data mining technique, has been widely used in marketing and e-commerce field to discover the association between products bought together by customers. It helps businesses in increasing their sales by analyzing the purchasing behavior of customers and pitching the right customer with the right product. This paper is an attempt to demonstrate Market Basket Analysis applications in healthcare. In particular, it discusses the Market Basket Analysis Algorithm 'Apriori' applications within healthcare in major areas such as analyzing the workflow of diagnostic procedures, Up-selling and Cross-selling of Healthcare Systems, designing healthcare systems more user-friendly. In the paper, we have demonstrated the MBA applications using Angiography Systems, but can be extrapolated to other modalities as well.

**Keywords :** data mining, market basket analysis, healthcare applications, knowledge discovery in healthcare databases, customer relationship management, healthcare systems

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