

Systematic Coronary Risk Evaluation through Artificial Neural Networks based Systems

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Abstract

On the one hand, cardiovascular diseases have severe consequences on an individual and for the society in general, once they are the main cause to death. These facts reveal that it is vital to get preventive, by knowing how probable is to have that kind of illness. On the other hand, and until now, this risk has been assessed by a *Systematic Coronary Risk Evaluation* procedure that takes data from charts based on gender, age, total cholesterol, systolic blood pressure and smoking status, but with no conceivable potential to deal with the incomplete or default data that is presented on those tools. Therefore, the focus in this work will be on the development of a risk evaluation support system based on a low-risk record, grounded on a new approach to knowledge representation and reasoning, that based on an extension to the Logic Programming language, will be able to overcome the drawbacks of the present ones. This will be complemented with a computational framework based on Artificial Neural Networks.

Keywords: Systematic Coronary Risk Evaluation; Knowledge Representation and Reasoning; Logic Programming; Artificial Neural Networks