

Assessing Health Risk with Soft Computing

Marie-Claire Koissi* and Arnold F. Shapiro**

*Department of Mathematics, University of Wisconsin-Eau Claire,
Eau Claire, WI 54702, USA, koissiml@uwec.edu

**Warren Center for Actuarial Studies & Research, University of Manitoba,
Winnipeg, Manitoba, R3T 5V4, Canada,
Arnold.Shapiro@umanitoba.ca

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ABSTRACT

Health risk is associated with events that are detrimental to human health and, given the complexity of some of the underlying factors, assessing that health risk is challenging for healthcare providers, in general, and life insurance companies, in particular.

An individual health risk is assessed on characteristics such as height, weight, age, but also additional information related to weekly exercise, smoking, drinking, and eating habits. This latter information is often expressed in linguistic form (for example: non-drinker, occasional drinker, heavy drinker). Since fuzzy logic is superior to traditional methods in situations where the linguistic variables are used to express the logic rules, the information is subjective, incomplete or unreliable, and the problem spaces are often nonlinear, it seems an appropriate methodology for evaluating health risk.

In this talk, we discuss how fuzzy logic can be used to model health risk with selected parameters such as body mass index (BMI), blood pressure, and drinking habit. First, we will briefly review some methods for assigning MFs. Then, we will discuss some tools used to combined those MFs and calculate the health risk.

Keywords: fuzzy logic, health risk, risk assessment.