

DESIGNING A FUZZY EXPERT SYSTEM ON AGE SPECIFIC PREVALENCE OF RESPIRATORY DISEASES USING FUZZY MARKOVIAN CHAIN

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Abstract

In this paper, we take steps to calculate the age specific member rate using fuzzy Markov chain. We designed the definition of possibility distribution function. Based on the definition of possibility distribution function introduced, the fuzzy Markov chain was framed. For the calculation of age specific member rate of respiratory diseases, we designed an expert medical system. From which, an index was made for the age specific member rate which varies as the product of proportion of susceptible at a given age t and the possibility of becoming infected in two age/time steps. The calculated algorithm is compatible with the modern epidemiology of respiratory diseases as reported in the literature.

Key Words : *Fuzzy Set, Complement of Fuzzy Set, Fuzzy Relation, Max.-Min. Composition of Fuzzy Set, Fuzzy Restriction, Relational Assignment Equation, Possibility Distribution Function, Fuzzy Markov Chain, Age specific member rate, Respiratory diseases.*