Modelling Sudden Deaths from Myocardial Infarction and Stroke

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Abstract : Death within 30 days is an important factor to be looked into, as there is a significant risk of deaths immediately following or soon after, Myocardial Infarction (MI) or stroke. In this paper, we will model the deaths within 30 days following a Myocardial Infarction (MI) or stroke in the UK. We will see how the probabilities of sudden deaths from MI or stroke have changed over the period 1981-2000. We will model the sudden deaths using a Generalized Linear Model (GLM), fitted using the R statistical package, under a Binomial distribution for the number of sudden deaths. We parameterize our model using the extensive and detailed data from the Framingham Heart Study, adjusted to match UK rates. The results show that there is a reduction for the sudden deaths following a MI over time but no significant improvement for sudden deaths following a stroke.