THE AIDS INCUBATION TIME DISTRIBUTION: AN ANALYSIS USING AN OPTIMISED SYSTEM DYNAMICS MODEL

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One way in which the incubation time distribution, from HIV infection up to the onset of AIDS, has been estimated is be means of a dataset of Transfusion - Associated (TA) cases. These are individuals whose date of initial infection is known with some degree of accuracy and, as such, represent a large, reliable cohort from which to estimate the form and parameters of the incubation distribution.

This exercise is carried out by optimisation of a system dynamics model. The model considers quarterly cohorts of infectives, from the earliest transfusion cases through post - 1985 when the numbers of such cases were considerably reduced arising from the introduction of routine screening of donated blood. It will shown that this discontinuity in 1985 is quite easily handled in the model.

The authors have already reported on work done using this model applied to the TA dataset from the USA. The acquisition of similar data for Europe now allows a comparative study to be carried out, keeping the overall model structure constant. The best fit parameters for the various statistical distributions employed in the analysis will be compared.