**Text S3. CDM Input parameter values**

Table S1 provides values for the CDM input parameters that are not varied in the calibration procedure and Table S2 provides values for the CEPAC (natural history of HIV infection) parameter values that are important for the CDM analyses; these are also fixed in our analyses.

Despite a thorough review of the literature, the initial CD4 count for incident HIV infected cases was uncertain. Initial CD4 counts ranged from 503 to 2051 cells/mm3 based on differing populations, study designs, and assumptions [[1-19](#_ENREF_1)]. We varied this number in our model and observed the changes in the life expectancy (time from infection to death) for HIV positive people in order to determine the best initial CD4 count estimate. In our sensitivity analyses an incident initial CD4 count of 442 cells/mm3 resulted in a life expectancy for HIV positive people of 4.9 years, 884 cells/mm3 in a life expectancy of 8.5 years, and 1200 cells/mm3 of 9.8 years. Based on survival estimates by Bachmann et al. [[20](#_ENREF_20)] of 8.2 years, we decided to assign the initial CD4 count for incident HIV infections to 884 cells/mm3.

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