|  |  |  |
| --- | --- | --- |
| **Health State** | **Status Quo** | **New Strategy** |
| **UTILITY** | | |
| **Healthy** | 0.637 | 0.637 |
| **Stroke** | 0.573& | 0.573& |
| **COST** | | |
| **Healthy** | £4792 (2018 Prices) ## | £4812 (2018 Prices) ## |
| **Stroke HCM Related** | £22,880 (2018 Prices) # | £22,880.00 (2018 Prices) # |
| #Obtained from the State of the Nation-Stroke Statistic, 2017 Report by the Stroke Association UK. An inflation rate of 1.04 was used to convert to 2018 prices.  ##Cost of ICD implantation as a day case is £4792 (Waight et al., 2019), consultation fee of £20 is added to the cost of implantation, when screened for SCD, under the new strategy. ‘Status Quo’ refers to current method of screening for SCD. ‘New Strategy’ refers to screening for SCD with HCM-SCD Prediction Model.  &Obtained after applying a decrement of 0.1 to the utility score for the Healthy health state. | | |

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| --- | --- | --- | --- | --- | --- |
| **From** | **To** |  | **Observed Transitions (y out of n)** | **Rate (Probability)** | **Reference** |
| Healthy | Healthy | ICD | 103 / 506=0.20  Mean follow up 3.7 => 1872.2 years  This is ‘appropriately terminated’ events tho? |  | (Maron et al., 2007) |
| Healthy | Stroke death | ICD | 0.56% per year  (95% CI 0.38 to 0.80)  4/120 deaths  Stroke death 0.2% per year |  | Elliott 2005  Maron 2000 |
| Healthy\* | Stroke HCM Related\* | SQ | 4 of 1000  2.56% for 11 years follow up | 0.0035 (0.003494) | Assumption  from where?  Naser 2017 |
| ICD | 3 of 1000  1/334\*1000 = 2.99  1286 years follow up | 0.003 (0.002995194) | (O'Mahony et al., 2012) |
| Healthy\* | Sudden Cardiac Death\* | SQ | 8 of 1000  11,712 years follow up  (20+31+27+7+4)/1606 = 0.055  0.76%/year  Weibull distribution (0.0015, 1.29)  48/956, 69 months follow up  1.02 per year  0.5% per year  1.71% for 11 years follow up  0.7-1.0% per year | 0.0082 (0.008165628) | (O'Mahony et al., 2013)  [HTA] Fox (2007), Cleland (2006)  Elliott 2005  [Table 3 of natural history studies]  Maron 2000  Naser 2017  Sanchez 2018 |
|  | 3 of 10  Says 92% survived to end of follow up tho? | 0.25 (0.221179029) | (Maron et al., 2007) |
| ICD | 0/334  1/506  HR 0.37 (95% CI 0.27 to 0.50) |  | O’Mahony (2012)  (Maron et al., 2007)  Ezekowitz 2003 |
| Healthy\* | Death All Causes\* | SQ | 8 of 1000  (1+3)/486 = 0.008  No clear what total follow up is?  Median all-cause mortality 11 years  (Manheim cohort from plot)  But generally not enough data for median estimates  120/956 | 0.008 (0.007967262) | (Maron et al., 2018)  (Maron et al., 2018)  Elliott 2005 |
| ICD | 4 of 1000  0.4% annual mortality rate  3.7 year follow up  RR 0.74  5-7% per year | 0.004 (0.003991598) | (Schinkel et al., 2012)  Ezekowitz 2003  Trivedi 2016 |
| Stroke HCM Related | Sudden Cardiac Death | Both | 2 of 1000  Don’t know where this is from? | 0.0019 (0.001898) | (Ågesen et al., 2018) |
| Stroke HCM Related  Are we assuming that a stroke is the same in terms of morality? | Death All Causes | Both | 6 of 10  Mortality risk 5-fold <1 year;  **2-fold >1 year** | 0.52 (0.405447397) | State of the Nation-Stroke Statistics Report,2018  Brønnum-Hansen (2001) |

|  |  |  |  |  |  |  |  |  |  |  |  |
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| **Summary of Observed Transitions** | | | | | | | | | | | |
| **Status Quo** | | | | | | **New Strategy** | | | | |
| **state** | **H** | **SHR** | **SCD** | **DAC** | **Transitions (ns), in State (s) at year j** | **H** | **SHR** | **SCD** | **DAC** | **Transitions (ns), in State (s) at year j** |
| **Healthy** (H) | 103 | 4 | 8 | 4 | 119 | 103 | 3 | 3 | 8 | 117 |
| **Stroke HCM Related** (SHR) | N/A | N/A | 2 | 6 | 8 | N/A | N/A | 2 | 6 | 8 |
| **Transitions (ys), to State (s) at year j** | 103 | 4 | 10 | 10 |  | 103 | 3 | 5 | 14 |  |
| Shape Properties of the Beta Prior Distribution | | | | | | | | | | | |
|  | **Eta/Tau** | | | | | **Eta/Tau** | | | | |
| Healthy (H) | N/A | 4/996 | 8/992 | 4/  996 |  | N/A | 3/997 | 3/7 | 8/992 |  |
| Stroke HCM Related (SHR) | N/A | N/A | 2/  998 | 6/4 |  | N/A | N/A | 2/  998 | 6/4 |  |
| \*Highlighted cells relate to expected observations under status quo, whereas not highlighted relate to expected observations under the new strategy: ICD implants under status quo are expected to lead to a less stable condition of health according to epidemiological evidence (O'Mahony et al., 2012), hence a lot more transitions are expected under the status quo compared to the new strategy. All other cells describe observed transitions common to the two strategies under study  N/A is ‘Not Applicable’ , **Death All Causes** (DAC), **Sudden Cardiac Death**(SCD) | | | | | | | | | | | |

The prognostic model was derived using data from a retrospective, multicenter longitudinal cohort study. The model presented in this article was  
developed using the entire data set,

The study cohort consisted of all consecutively evaluated patients with  
HCM, followed up at six participating European centers:

(i) The Hear Hospital, London, UK

The study population was all successively evaluated patients (N=) with HCM, followed-up at the Heart Hospital London in the United Kingdom, one of the participating centers of the retrospective, multicenter longitudinal cohort study

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