1. Death rates in those nominated for an Oscar vs. in the (sex-and age-matched) US general population

Under Resources for 'Comparisons among Exposure Groups [B & D vol II, ch3]' you will find (a) the Oscar data set[1] (b) a link to the Berkeley Mortality Database [`http://www.demog.berkeley.edu/~bmd/index.html`] which contains historical lifetable and death rate data for the USA and other countries. Since the race-specific data start too late (The Oscar awards were first handed out in the late 1920s), just use the (all-race) 5×5 death rates for 1900-1995, and re-use the 1990-1995 rates for 1995-2001.

i. Convert each performer's record into the experience in the (age, period) quinquinquennia traversed, i.e the number of years, and the status (e.g., $d = 0$ if alive, 1 if dead) at the end of these years. Rather than program the calculations from scratch, two possibilities are
`http://epi.klinikum.uni-muenster.de/pamcomp/pamcomp.html`
which Marilyse has used – and recommends – and the
`R` 'Epi' package `http://staff.pubhealth.ku.dk/~bxc/Epi/` JH has tried just a few of the Epi functions that do the basic time-slicing. The key functions are `Lexis` (and associated plotting functions) and `splitLexis`, which, when applied twice, calculates the time spent, and exit status from each quinquinquennium. The 'bogus example' in the documentation of the `splitLexis` function illustrates these.

ii. Use the quinquinquennia data to estimate how much higher/lower the *set* of age-specific death rates for Oscar nominees is than that for the general US population. Carry out separate analyses for males and females.

iii. (For the age-span 40-90): how much higher are male death rates than female death rates in (a) Oscar nominees (b) the general population? By eye, from a graph of the log of the male:female death rate ratio vs age, (or the two separate sets of log-death-rates on the same graph) is the mortality-rate-ratio reasonably constant over that age-span?

2. Mortality of performers while in the 'still hoping to win' vs in the 'already a winner' state

i. Divide the performer-years into those spent as nominees and as winners and then subdivide these into quinquinquennia.

ii. Compare the death rates in the performer-years spent as nominees versus those spent as winners. Do so using both 'adjusted' expected numbers and purely-internal comparisons.

The Resources page has the `R` code for the B&D Ch3 analyses of the Montana smelter workers' data.

[1] this differs slightly from that analyzed in the Redelmeier article.