Supplementary information

**Power calculation**

The power calculation was based on studies of a British birth cohort of comparable age and size (2797 individuals aged 53 years)[1]. See study protocol for details[2]. Kuh et al. measured time to complete 10 chair-rises and found a difference of 0.3 sec\(^{-1}\) (SD 3.3) between manual and non-manual workers. A slightly larger difference of 0.5 sec\(^{-1}\) was thought clinically relevant, which is to say that manual and non-manual workers spent 22 and 20 seconds respectively to perform 10 chair-rises. For the purposes of our study, this equates to 13.6 versus 15 chair-rises/30 seconds. We assumed that 20% of the population has a history of physical exposures during working life, and we aimed for a power of 90% (beta=0.1) with a significance level of 5% (alpha= 0.05). To detect a difference of 0.5 sec\(^{-1}\), n was calculated to be 2,870. The power calculations were performed in SAS version 9.2 PROC POWER.
