Additional File 1: Illustration of calculation of fiscal value of human lives lost due to COVID-19 in China

The example below illustrates how fiscal value of human lives lost from COVID-19 among age group 25-49 years ($FVYLL_{24-49}$) in China:

(a) Total number of COVID-19 deaths among age group 24-49 years as of 24 February 2020 ($COVID-19D_{25-49}$) = 1265.85365853659 (which from 2,595 times 0.487804878)

(b) Average age at death among 24-49 years old (AAD_{24-49}), i.e. (25+49)/2 = 37 years

(c) China's life expectancy at birth (LE) = 76.4 years

(d) China's per capita GDP (GDPPC) = Int$21,083.57

(e) Per capita current health expenditure (CHEPC) = Int$841

(f) NGDPC = GDPPC − CHEPC = Int$ 21,083.57 − 841 = Int$ 20,242.57

(g) Discount rate (r) = 3%

(h) Undiscounted years of life lost by a person aged 24-49 years (YLL) = LE − AAD_{24-49} = 76.4 − 37 = 39.4 years

(i) Discounted years of life lost (DISYLL) = 22.80821513

(j) $FVYLL_{24-49}$ = DISYLL x NGDPC x $COVID-19D_{25-49}$ = 22.80821513 x 20,242.57 x 1265.85365853659 = Int$ 584,440,699.

We built above formulas in Excel software to obviate inaccuracies. Therefore, fiscal values for the COVID-19 deaths among age groups 50-64 years and 65 years and above were calculated in a similar manner.