**- How did you estimate mortality in England and Wales? What were your main conclusions about mortality by age group and sex?**

We fitted a statistical model to weekly mortality data from the Office for National Statistics from 2010 and 2019. With this model, based on past trends, we projected mortality forward until June 28, 2020 for different age groups for men and women. This projected mortality is our baseline, i.e. the expected mortality in the absence of the pandemic.

Our study shows that excess deaths, the difference between observed deaths and what would have been expected in the absence of the pandemic, increased sharply with age, and men experienced higher risks of death in all age groups compared to women.

The first death attributable to COVID-19 in England and Wales was registered in the week starting in March 2, 2020 (week 10). From that week to week 26, which ended on June 28, 2020, there were 228,178 registered deaths over the age of 14, from which an estimated 53,937 are excess mortality above the expected baseline. This estimate represents a 31% increase in mortality compared to the expected level. Of these deaths, 40,346 were among people in the group of 75 years and older.

**- How did you calculate the decrease of life expectancy by 1.7 for women and 1.9 for men? In the most positive scenario, there will always be a decrease in life expectancy?**

We calculated life expectancy at birth for 2019 based on data from the Office for National Statistics in England and Wales. For women, life expectancy in 2019 was around 83.5 years, and for men it was 79.9 years. Based on data for the first half of 2020, life expectancy for females and males was 81.8 and 78 years, respectively. Therefore, compared to the 2019 levels, life expectancy dropped by 1.7 and 1.9 years for women and men, respectively.

Whether life expectancy will decrease for the full year of 2020 remains to be seen. Provided there is not a substantial ‘second wave’ of COVID-19 and that the pandemic affected the most fragile individuals, the remaining population may see lower than usual death rates in the second half of 2020, thereby making the overall life expectancy losses less severe. But even if mortality decreases below the baseline levels by 10%, , life expectancy for 2020 would still be 4.4 and 6.6 months lower than expected for females and males.

**- For how long have life expectancy been increasing in England and Wales? And in the UK in general?**

Life expectancy in England and Wales has been increasing continuously since the 1950s. However, over the last decade improvements have been slower and life expectancy prior to 2019 was stalling. Growing evidence suggests that prolonged austerity matters greatly. Similarly, the UK has seen slower improvements in life expectancy at birth over the last years, with even slight reversals around 2015.

**- From your analysis, do you believe there will be a national decrease in life expectancy in the UK in 2020?**

Based on trends of increasing mortality in England and Wales from our study, from what is being reported elsewhere about Scotland and Northern Ireland, and on the previous trends of life expectancy at birth, it is likely that life expectancy at birth will drop in 2020 for the UK. The magnitude of such decrease will highly depend on what is done the rest of the year to mitigate the burden of the pandemic and to avoid premature mortality from other causes.

**- Do you think it may happen in other European countries? From what does it depend?**

Responses to the pandemic varied greatly among European countries. While some countries were severely hit, others reacted timely with effective interventions. For example, an ongoing study with colleagues at the University of Southern Denmark suggests that there were no excess deaths during the pandemic in Denmark.

**- If life expectancy decreases in 2020, what will need to be done in order to return to an increasing trend?**

At the moment, the potential impact of low-cost, non-pharmaceutical interventions, such as facemasks use and social contact restrictions to help reduce the number of future COVID-19 cases and deaths is of the highest importance. In addition, healthcare services should get ready for additional burden from hospital waiting lists of months of deferred treatments for chronic health conditions, as well as the huge drop off in referrals for routine care7 and the longer-term consequences of the suspension of programmes such as routine cancer screening during the pandemic.

**- What do you mean by lifespan inequality and how may it change?**

Lifespan inequality refers to variation in length of life. If lifespans are more variable, it means greater lifespan inequality, which requires greater efforts to allocate limited resources to a wider groups of ages. Usually as life expectancy increases, lifespan inequality decreases because deaths are concentrated in a narrower group of ages. However, we found that during the pandemic lifespan inequality decreased alongside life expectancy dropping. This is a surprising result that underscores the dimension of heightened mortality at older ages.

**- What was the result from this analysis that really did surprise you?**

Mortality in England and Wales was so greatly affected during the pandemic that, on average, men and women are losing life expectancy as much as almost 2 years. Another surprising results is that the burden of the pandemic on mortality started at working ages, and not at older ages as it was expected. Lastly, that men experienced higher death rates during the pandemic in all age groups.