



In week 4 2021, statistically significant excess all-cause mortality by week of death was observed overall in England through the EuroMOMO algorithm. In the devolved administrations, no statistically significant excess all-cause mortality for all ages was observed for Wales or Northern Ireland in week 4. Statistically significant excess mortality was observed in Scotland for week 1.

All-cause death registrations (ONS), England and Wales

In week 3 2021, an estimated 18,676 all-cause deaths were registered in England and Wales (source: [Office for National Statistics](#)). This is an increase compared to 18,042 deaths registered in week 2 2021.

Excess all-cause (EuroMOMO) mortality in subpopulations, UK

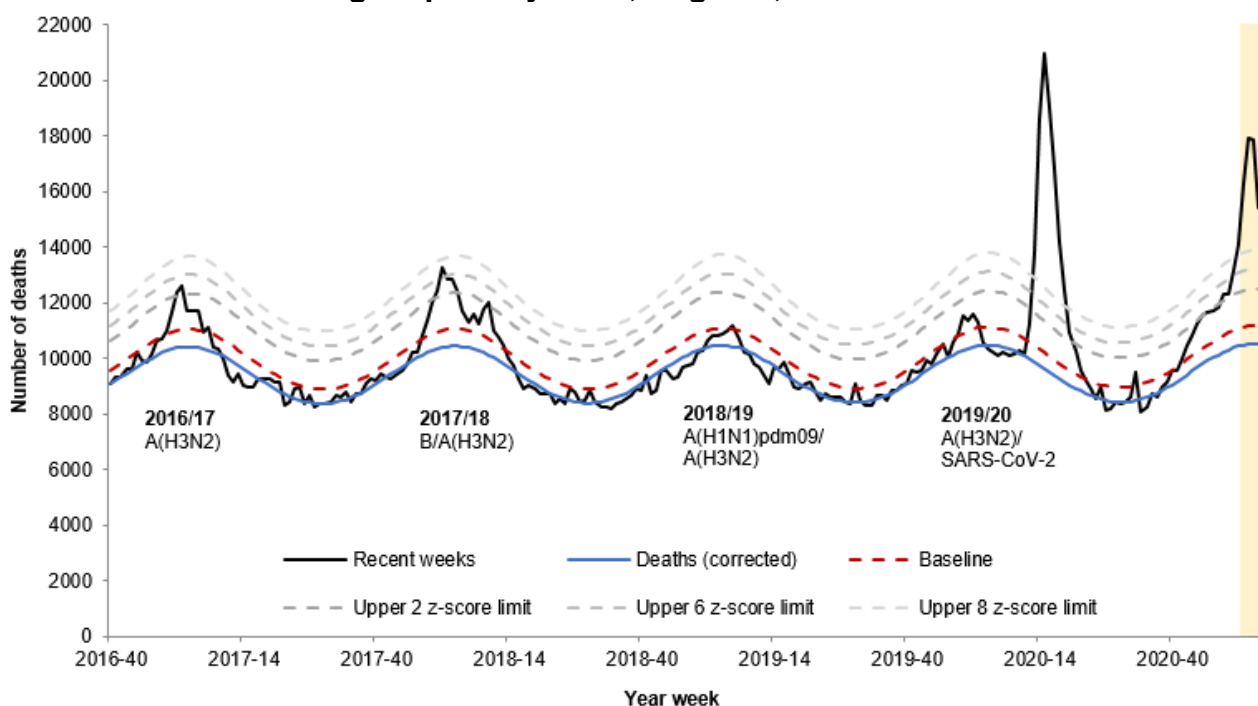
In week 4 2021 in England, statistically significant excess mortality by week of death above the 2 z-score threshold was seen overall, by age group in the 15 to 64 and 65 plus year age group and sub-nationally (all ages) in all regions of England after correcting GRO disaggregate data for reporting delay with the standardised [EuroMOMO](#) algorithm (Figure 3).

In the devolved administrations, no statistically significant excess all-cause mortality for all ages was observed for Northern Ireland or Wales in week 4. Statistically significant excess mortality was observed in Scotland for week 1.

This data is provisional due to the time delay in registration; numbers may vary from week to week.

Data presented in this week's report supersedes data presented in reports from previous weeks.

Figure 1: Weekly observed and expected number of all-cause deaths in all ages, with the dominant circulating respiratory virus, England, 2016 to week 4 2021



Note: The recent weeks' data are estimates with large registration delay corrections and therefore should be interpreted with caution. These estimates may differ substantially to future reports as more deaths are registered.

Table 1: Excess mortality by age group, England*

Age group (years)	Excess detected in week 4 2021?	Weeks with excess in 2020/21
<5	x	NA
5-14	x	NA
15-64	✓	40-04
65+	✓	42-04

Table 2: Excess mortality by UK country, for all ages*

Country	Excess detected in week 4 2021?	Weeks with excess in 2020/21
England	✓	42-04
Wales	x	43, 44, 53-02
Northern Ireland	x	44, 45, 02
Country	Excess detected in week 1 2021?	Weeks with excess in 2020/21
Scotland	✓	43-01

* Excess mortality is calculated as the observed minus the expected number of deaths in weeks above threshold

NB. Separate total and age-specific models are run for England which may lead to discrepancies between Tables 1 + 2

* NA refers to no excess seen

- Seasonal mortality is seen each year in England and Wales, with a higher number of deaths in winter months compared to the summer. Additionally, peaks of mortality above this expected higher level typically occur in winter, most commonly the result of factors such as cold snaps and increased circulation of respiratory viruses, in particular influenza and in summer occasionally as a result of heat-waves.
- Immunisation & Countermeasures Division's weekly mortality surveillance aims to detect and report acute significant weekly excess mortality above normal seasonal levels in a timely fashion. Excess mortality is defined as a significant (above the upper 2 z-score threshold) number of deaths reported over that expected for a given point in the year, allowing for weekly variation in the number of deaths. A z-score is a statistical measure of how many standard deviations above the baseline threshold the number of deaths were. For example, a z-score of 2 means that the number of deaths were 2 standard deviations above the baseline threshold. Excess mortality triggers further investigation of spikes and informs any public health responses.
- The aim is not to assess general mortality trends or precisely estimate the excess attributable to different factors, although some end-of-winter estimates and more in-depth analyses (by age, geography etc.) are undertaken.
- Separate to the calculations presented in this report, excess winter deaths (EWD), comparing the number of deaths in the winter period compared to the non-winter period, are calculated by [ONS](#).
- Other measures of excess mortality published by PHE are the [Fingertip excess mortality in England](#) report, which uses ONS death registration data; and the PHE daily GRO mortality model which is published in the [weekly influenza and COVID-19 surveillance report](#).

Produced by the Immunisation & Countermeasures Division, National Infection Service, Public Health England.