

## Why no-one can ever recover from COVID-19 in England – a statistical anomaly

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People living in England have become increasingly concerned in the face of Public Health England's (PHE) figures demonstrating a relentless daily toll of more than a hundred COVID-associated deaths several days a week (see Figure 1).

This is in stark contrast to the more reassuring recovery in neighbouring regions (Wales, Scotland and Northern Ireland), where there are days with no COVID-associated deaths whatsoever.

One reason for this due is a statistical flaw in the way [that PHE compiles](#) [\[https://coronavirus.data.gov.uk/about#coronavirus-associated-deaths\]](https://coronavirus.data.gov.uk/about#coronavirus-associated-deaths) 'out of hospital' deaths data, rather than any genuine difference between the regions of the UK:

*"Linking data on confirmed positive cases (identified through testing by NHS and PHE laboratories and commercial partners) to the NHS Demographic Batch Service: when a patient dies, the NHS central register of patients is notified (this is not limited to deaths in hospitals). The list of all lab-confirmed cases is checked against the NHS central register each day, to check if any of the patients have died."*

Here, it seems that PHE regularly looks for people on the NHS database who have ever tested positive, and simply checks to see if they are still alive or not. PHE does not appear to consider how long ago the COVID test result was, nor whether the person has been successfully treated in hospital and discharged to the community. Anyone who has tested COVID positive but subsequently died at a later date of any cause will be included on the PHE COVID death figures.

By this PHE definition, no one with COVID in England is allowed to ever recover from their illness. A patient who has tested positive, but successfully treated and discharged from hospital, will still be counted as a COVID death even if they had a heart attack or were run over by a bus three months later.

This why the PHE figures [vary substantially from day to day](#). [\[https://www.cebm.net/covid-19/update-on-ons-death-data-and-how-it-differs-to-phe-daily-updates/\]](https://www.cebm.net/covid-19/update-on-ons-death-data-and-how-it-differs-to-phe-daily-updates/) For example, 16 new deaths were announced on 6th July, but the following day, 152 were reported – [today's figure is 66](#). [\[https://coronavirus-staging.data.gov.uk/deaths\]](https://coronavirus-staging.data.gov.uk/deaths)

PHE data also confirm that more than 125 000 patients have been admitted to NHS hospitals for COVID, the majority being successfully treated and discharged. There are now less than [1900 patients in hospital](https://www.cebm.net/covid-19/covid-19-uk-hospital-admissions/).

So, roughly 80 000 recovered patients in the community will continue being monitored by PHE for the daily death statistics. More and more people (who are mainly in the older age group) are being discharged to the community, but they clearly may die of other illnesses.

This is why 'out of hospital setting' deaths remain constantly high (Figure 1), even though the Office of National Statistics data shows there have been fewer deaths than the five year average in the [last three weeks](https://www.cebm.net/covid-19/covid-19-mortality-ons-update/), and NHS England data shows a moving average [of 19 deaths per day in hospital](https://www.cebm.net/covid-19/covid-19-death-data-in-england-daily-update/).

It's time to fix this statistical flaw that leads to an over-exaggeration of COVID-associated deaths. One reasonable approach would be to define community COVID-related deaths as those that occurred within 21 days of a COVID positive test result.

In summary, PHE's definition of the daily death figures means that everyone who has ever had COVID at any time must die with COVID too. So, the COVID death toll in Britain up to July 2020 will eventually exceed 290k, if the follow-up of every test-positive patient is of long enough duration.

**Figure 1.** This graph confirms a gradual but steady decline in NHS England deaths in hospital. But there is a persistent pattern where 'out of hospital' data are contributing hundreds of additional deaths to the daily figures, and this shows no signs of letting up. Indeed, there were >100 non-hospital daily deaths recorded on 14 occasions over the last 30 days. The fluctuations across the working week and weekends are likely related to the intermittent frequency of database updates and subsequent inclusion of data not captured from previous weeks.

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