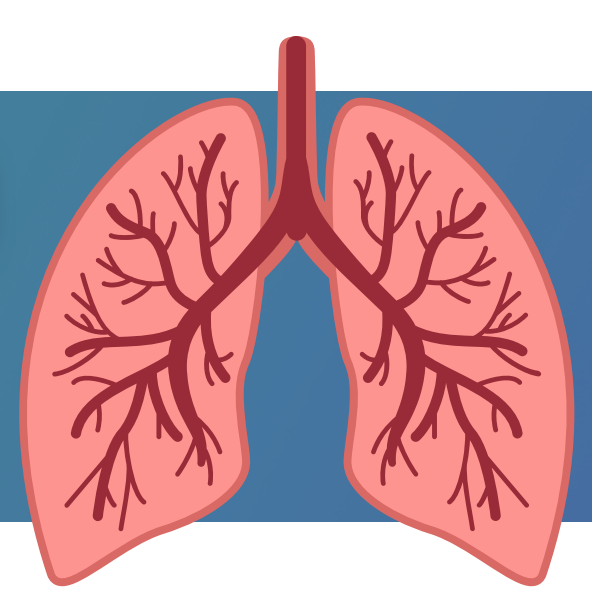




Study at a glance



A national study of more than 8.7 million people found persistent differences in respiratory exacerbations and mortality according to sex, socioeconomic deprivation, ethnicity and region.



Study period: November 2019 – March 2025



Data: NHS primary care, hospital and mortality records

Who was studied?



7.64 million People with **asthma**



1.21 million People with **COPD**

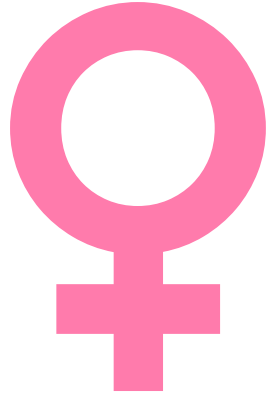
Researchers examined monthly rates of exacerbations and all-cause mortality across England.

Impact of sex, socioeconomic deprivation, ethnicity, and region on exacerbation rates and mortality of chronic respiratory diseases in England: population-based cohorts

Funded by HDR UK's Inflammation and Immunity Driver Programme

HDRUK
Health Data Research UK

Women had more exacerbations



Asthma

33%



higher average monthly **exacerbation** rate in women than men

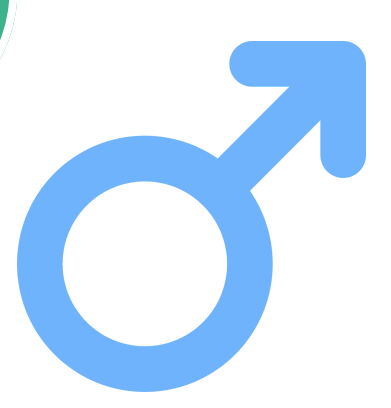
COPD

30%



higher average monthly **exacerbation** rate in women than men

Men had higher mortality



Asthma

13%



higher all-cause **mortality** in men with asthma

COPD

15%



higher all-cause **mortality** in men with COPD

Deprivation mattered

The **biggest differences** were seen between the **most** and **least deprived areas**.



Asthma

2 x



higher all-cause mortality in the most deprived areas

COPD

41%



higher all-cause mortality

2.23 x



higher exacerbation rates

68%



higher exacerbation rates in the most deprived areas compared with the least deprived

A North-South divide

People in the **North East of England** experienced higher rates than those in the **South West**.



Asthma

69%



higher exacerbation rate

COPD

42%



higher exacerbation rate

22%



higher all-cause mortality

15%

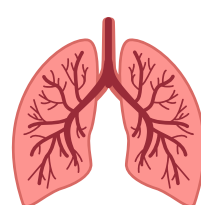


higher all-cause mortality

What happened during COVID-19?

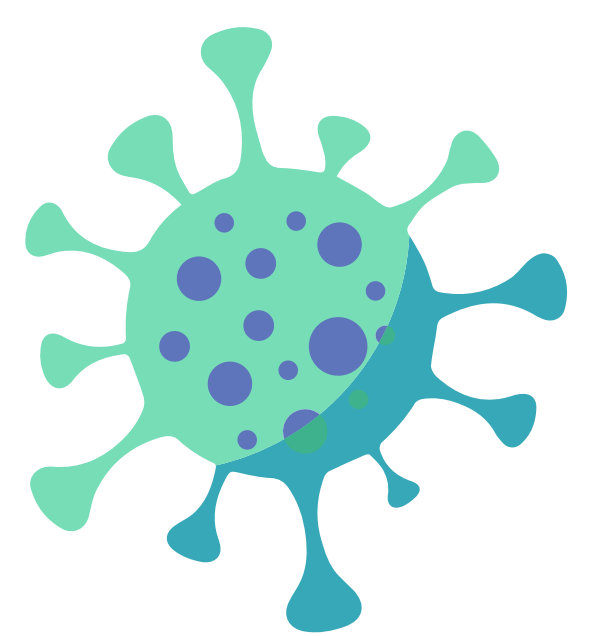


Mortality increased during the first and second waves of the pandemic.



Among people with asthma, the rise was particularly pronounced among:

- Black and Asian people
- People living in more deprived areas
- People living in northern England

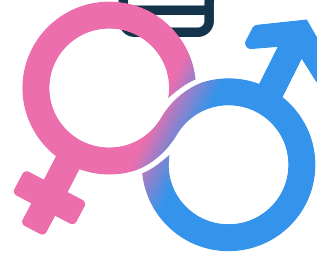


Exacerbations fell during the main pandemic waves — potentially because people were shielding and exposed to fewer respiratory viruses, but also because some people may have avoided healthcare and events went unrecorded.

Key messages



Where you live, your **socioeconomic circumstances** and your **sex** can be strongly associated with the burden of chronic respiratory disease.



The study shows that these inequalities have persisted despite changes during the COVID-19 pandemic.



Greater investment in respiratory research and making respiratory health a national priority are needed to reduce these inequalities.