

# How comorbidities increase risks for COVID patients

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Comorbidities such as heart disease, respiratory disease, renal disease and cancer lead to an increased risk of death from COVID-19 according to new research from the University of East Anglia (UEA) and the Norfolk and Norwich University Hospital (NNUH).

At the start of the pandemic, there was concern that specific medications for high blood pressure could be linked with worse outcomes for COVID-19 patients.

Previous research from the UEA team showed this wasn't the case and that medications for high blood pressure could, in fact, improve COVID-19 survival rates and reduce the severity of infection.

New findings, published today in the journal *JAMA Network Open*, additionally show that it is comorbidities such as [heart disease](#), respiratory disease, [renal disease](#), cancer, obesity and increasing age—and having more than one disease or chronic condition at the same time—that lead to [increased mortality](#) and severity of disease.

The team reviewed 52 separate studies involving

over 100,000 patients in this, the most comprehensive study of its kind to date.

They studied the outcomes for patients taking antihypertensives—looking particularly at 'critical' outcomes such as being admitted to intensive care or being put on a ventilator, and death.

Their meta analysis showed a significantly lower risk of hospitalization or death for people taking blood pressure medications Angiotensin-Converting Enzyme inhibitors (ACEi) or Angiotensin Receptor Blockers (ARB).

But they also found that risks for hospitalization and death were much higher for people with comorbidities.

Lead researcher Dr. Vassilios Vassiliou, from UEA's Norwich Medical School and Honorary Consultant Cardiologist at NNUH, said: "What a meta analysis gives us is the really big picture. We looked at the combined findings of 52 separate studies involving over 100,000 patients. It is the most comprehensive study of its kind to date.

"With these increased numbers, what we can see very clearly now, is that it is the comorbidities such as cardiac disease or respiratory disease, cancer or obesity amongst others that lead to an increased mortality.

"And we can confirm that the blood pressure medications themselves are protective—not only for people who have [high blood pressure](#), but for people with a range of other comorbidities as well," he added.

**More information:** 'Association Between Renin-Angiotensin-Aldosterone System Inhibitors and Clinical Outcomes in Patients With COVID-19: An Updated Systematic Review and Meta-analysis' *JAMA Network Open*, March 31, 2021.

Provided by University of East Anglia

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