



Covid + Flu 'twindemic' forecast

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The US & England could see hospitalisations reach ~183K & ~30K per a week as COVID-19 and flu resurface

US and England Hospitalisation forecasts for COVID-19 and Influenza this winter

COVID-19 hospitalisations have fluctuated with variant emergence and population immunity, and a novel variant to Alpha or BA.1 (winter waves), could overwhelm hospitals if it were to materialize this winter. With several COVID-19 variants currently circulating, all with enhanced immune escape capabilities, the next COVID-19 wave is imminent. Simultaneously, the upcoming flu season is of concern as Australia had an early return of influenza this year fueled by the H3N2 flu strain, burdening hospitals. H3N2 can cause more severe disease than other flu strains and was responsible for the UK's last bad flu season in 2017-18, in which there were about 22,000 excess deaths and twice as many hospital admissions. Governments are urging those eligible to get a COVID-19 booster and flu shot.

United States and England weekly observed COVID-19 hospital admissions and possible future hospitalisations this winter when flu and COVID-19 coincide

Limitations:

→ Flu weekly hospital admissions are from 2017-18, and this should be used as a signifier only, as flu hospitalisations cannot be projected.

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- → The model assumes these hospitalisations are additive and do not include coinfections.
- → Flu and COVID-19 hospital admission data only available for England and not the UK.
- → Confirmed influenza hospitalisations are an underestimate of the true burden as its nonnotifiable.



Germany could experience record hospitalisations this winter; France could see 30K hospitalisations per week

France and Germany Hospitalisation forecasts for COVID-19 and Influenza this winter

The coming winter could see Germany experience record hospitalisations, reaching ~18K a week as a COVID-19 wave will likely coincide with a bad flu season. This is due to population immune apathy against flu, as COVID-19 restrictions reduced the circulation of flu over the last two years. In France, this is similar, with hospital admissions possibly reaching 30K this winter. COVID-19 cases are already increasing in both France and Germany, indicating the beginning of a new wave. The flu season is to begin next week and given that COVID-19 waves, have on average, during the omicron era lasted 8-10 weeks, that could lead to a critical scenario in the overall disease burden attributable to both COVID-19 and flu. This is the first year countries will experience both flu and COVID-19 waves, and vaccines remain a key defence tool against both.

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Observed weekly hospital admissions and possible future hospitalisations this winter when flu and COVID-19 coincide

Limitations:

- →Influenza weekly hospital admissions are from 2017-18, and this should be used as a signifier only, as flu hospitalisations cannot be projected.
- \rightarrow The model assumes these hospitalisations are additive and do not include coinfections.
- \rightarrow Influenza and COVID-19 hospital admission data only available for England and not the UK.
- \rightarrow Confirmed influenza hospitalisations are an underestimate of the true burden as its non-notifiable.

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