

# Mortality during first and second waves of COVID-19 pandemic in dialysis patients and kidney transplant recipients

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# Background



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- General population data from several countries suggested lower case-fatality rates in the second wave compared with the first wave.
  - Proposed explanation for lower case fatality during the second wave included: increased identification of young individuals with COVID-19, increased identification of more mild and asymptomatic cases, and better management of COVID-19 patients during the second wave.
  - Given the high rates of mortality in dialysis patients and kidney transplant recipients, we investigated mortality in the first and second pandemic waves in these patients.
  - We also examined potential reasons for any differences in mortality between the two waves.

# Methods



**Data source:** the European Renal Association COVID-19 Database (ERACODA)

- Data voluntarily reported on outpatients and hospitalized patients by physicians responsible for their care.
- Data recorded by approximately 225 physicians representing over 140 centers in about 35 countries, mostly in Europe

**Study population:** Adult (age  $\geq 18$  years) kidney transplant recipients and dialysis patients with COVID-19 who presented between March 1<sup>st</sup>, 2020 & February 28<sup>th</sup>, 2021.

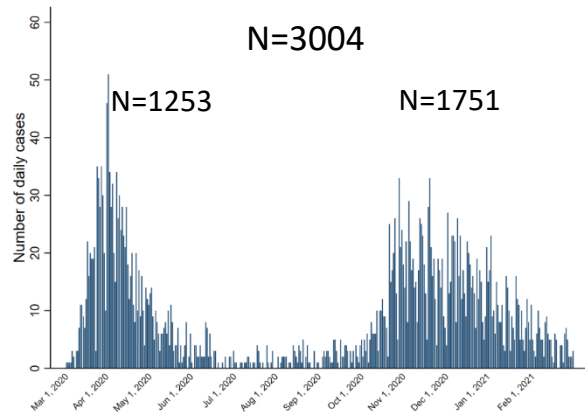
**Independent variable of interest:** Pandemic wave (first vs. second)

August 1<sup>st</sup>, 2020 was set as a cut-off for dividing the first and second wave

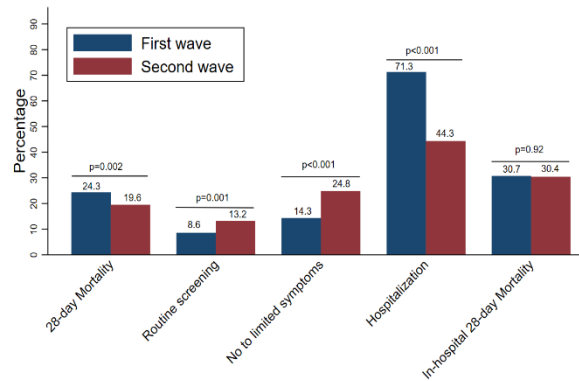
**Outcome:** 28-day mortality

**Statistical analysis:** Multivariable Cox regression analysis

# Results



## Dialysis patients



### Total

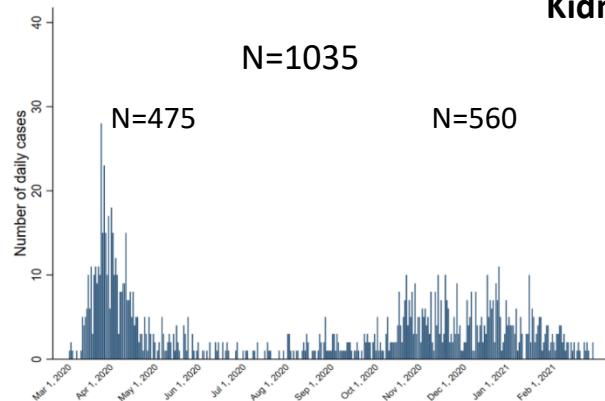
Crude: 0.77 (0.66, 0.89)

Fully adjusted: 0.93 (0.79, 1.10)

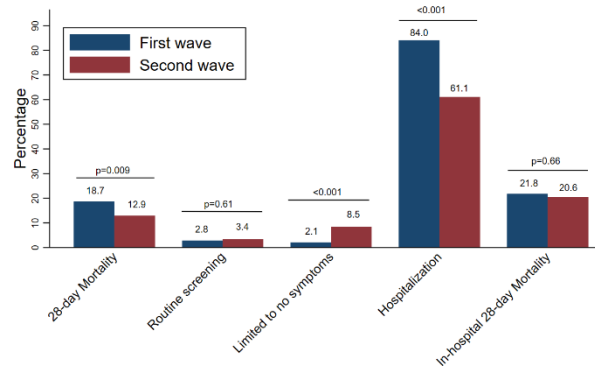
### In hospital

Crude: 0.94 (0.79, 1.12)

Fully adjusted: 0.88 (0.74, 1.05)



## Kidney transplant recipients



### Total

Crude: 0.66 (0.48, 0.90)

Fully adjusted: 0.95 (0.68, 1.33)

### In hospital

Crude: 0.92 (0.67, 1.26)

Fully adjusted: 0.97 (0.69, 1.36)

Adjusted for: age, sex, the reason for screening, presence of no to limited symptoms, smoking, hypertension, diabetes mellitus, chronic lung disease, heart failure, chronic artery, cough, shortness of breath, fever, sore throat, O<sub>2</sub> saturation, pulse, temperature, systolic blood pressure, diastolic blood pressure, lymphocytes, c-reactive protein, hospitalization

# Conclusions

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- Among dialysis patients and kidney transplant recipients with COVID-19,
  - 28-day mortality rates were lower in the second wave compared with the first wave.
  - a greater proportion of patients with minimal symptoms possibly explain the lower mortality during the second wave.
  - Any improvement in patient management during the second wave may not be the main reason for lower mortality during the second wave.

# Acknowledgement

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*Contributors:* We thank all contributors that entered information in the ERACODA database for their participation, and especially all healthcare workers that have taken care of the included COVID-19 patients.