

# Impact of the COVID-19 Era on Acute Kidney Injury Mortality

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## INTRODUCTION

- Acute kidney injury (AKI) is a common complication with high mortality.
- COVID-19 pandemic has been associated with increased incidence and severity of AKI.
- The long-term impact of COVID-19 on AKI mortality trends at the population level is unclear.

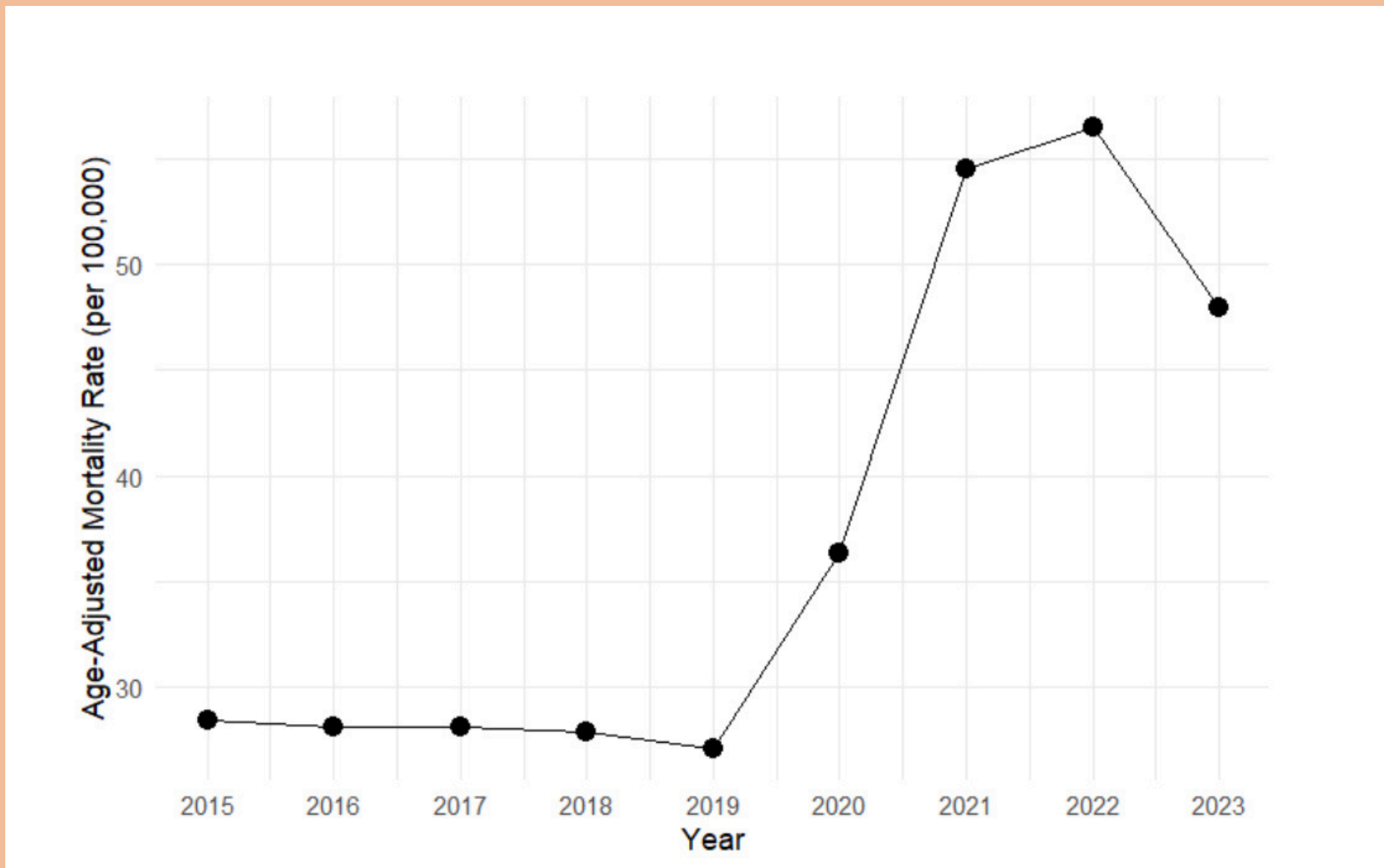
**Objective**  
Assess U.S. trends in AKI mortality comparing pre- vs post-COVID eras

## METHODOLOGY

- A retrospective cross-sectional study using data From U.S. CDC WONDER Multiple Cause of Death (2015–2023).
- Population: Adults aged 18–84 years with AKI (ICD-10: N17) listed as underlying or contributing cause of death.
- Outcome: Age-adjusted mortality rates (AAMRs) per 100,000 population.
- Periods compared:  
1. Pre-COVID (2015–2019)  
2. Post-COVID (2020–2023)

## RESULTS

- AAMR increased significantly
- Pre-COVID: 27.9 (SD 0.51)
  - Post-COVID: 48.8 (SD 9.08)
  - p = 0.019



- Yearly AAMR trends
- Mortality peaked in 2022 (57.2 per 100,000)
  - Slight decline in 2023 (48.5), but still above pre-COVID levels
  - Suggests persistent elevation beyond the pandemic’s acute phase

- Relative Risk**
- Post-COVID deaths were 44% higher compared with pre-COVID
  - RR = 1.44 (95% CI: 1.44–1.45, p < 0.001)

## CONCLUSION

- AKI mortality in the U.S. rose markedly post-COVID.
- Mortality remained elevated through 2023 despite slight decline after 2022.
- ITS suggests increase reflects a sustained change during pandemic years, not a sudden spike.

### Interrupted Time Series (ITS) analysis

- No significant immediate level change at the onset (p = 0.737)
- No significant slope change over time (p = 0.281)
- Indicates the rise reflects a sustained new baseline rather than a sudden spike

