



# Trends in Racial Disparities in Acute Kidney Injury Mortality Between Black and White Populations in the United States, 2014–2023

Napat Wongmat, MD <sup>1</sup>; Nopavit Mohpichai <sup>2</sup>; Nongnapas Assawamasbunlue<sup>1</sup> ; Issaree Boonyawannukul, MD <sup>3</sup> ; Sorawis Ngaohirunpat<sup>1</sup>; Natanon Chamnarnphol, MD <sup>1</sup> ; Panchanit Yongkiatkan, MD <sup>1</sup> ; Weerinth Puyati, MD <sup>1</sup> ; Voramol Rochanaroon<sup>4</sup> ; Ekamol Tantisattamo, MD, MPH <sup>1</sup>.

<sup>1</sup> American Heart Association Comprehensive Hypertension Center at the University of California Irvine Medical Center, Division of Nephrology, Hypertension and Kidney Transplantation, Department of Medicine, University of California Irvine School of Medicine  
<sup>2</sup> Excellent Center for Organ Transplantation, Faculty of Medicine Ramathibodi Hospital, Mahidol University, Bangkok Thailand  
<sup>3</sup> Faculty of Medicine, Srinagarind Hospital, Khon Kaen University, Khon Kaen, Thailand  
<sup>4</sup> Police General Hospital College of Medicine, Bangkok, Thailand

## Introduction

- Acute Kidney Injury (AKI) is a sudden decline in kidney function common in hospitalized patients, associated with increased mortality.
- Health outcomes differ by race in the U.S. linked to disparities in mortality expected.

### Study Aim

- To evaluate trends in mortality rates from AKI between Black and White populations in the U.S. from 2014–2023.
- To compare relative risks (RR) of AKI-related deaths between groups.

## Methods

- Design:**  
Retrospective cohort study using CDC WONDER MCODE database.
- Population:**  
Black and White Americans with AKI as underlying cause of death.
- Exposure:**  
Black vs. White population groups in the U.S.
- Outcome:**  
Mortality rates per 100,000 population, Relative risk (RR) comparing Black vs. White populations (with 95% CI, p-value)
- Analysis:**  
Annual mortality comparison using RR with 95%CI and p-values

## Results

- **Black population:**  
14.0–28.6 deaths/100,000.
- **White population:**  
11.1–14.6 deaths/100,000.
- **Black individuals**  
consistently had higher risk of AKI mortality (RR 1.17–1.96, all p < 0.01).
- **Highest disparity:**  
2014 (RR 1.96, 95% CI 1.73–2.21).
- **On average**  
Black population had ~14 more deaths/100,000 than White population.

## Acknowledgments & Contact

Data were obtained from the CDC WONDER Multiple Cause of Death database (2014–2023).  
**Contact Name:** Napat Wongmat, MD  
**Email:** [Napat.6402@gmail.com](mailto:Napat.6402@gmail.com)

Mortality rates trend from 2014 to 2023

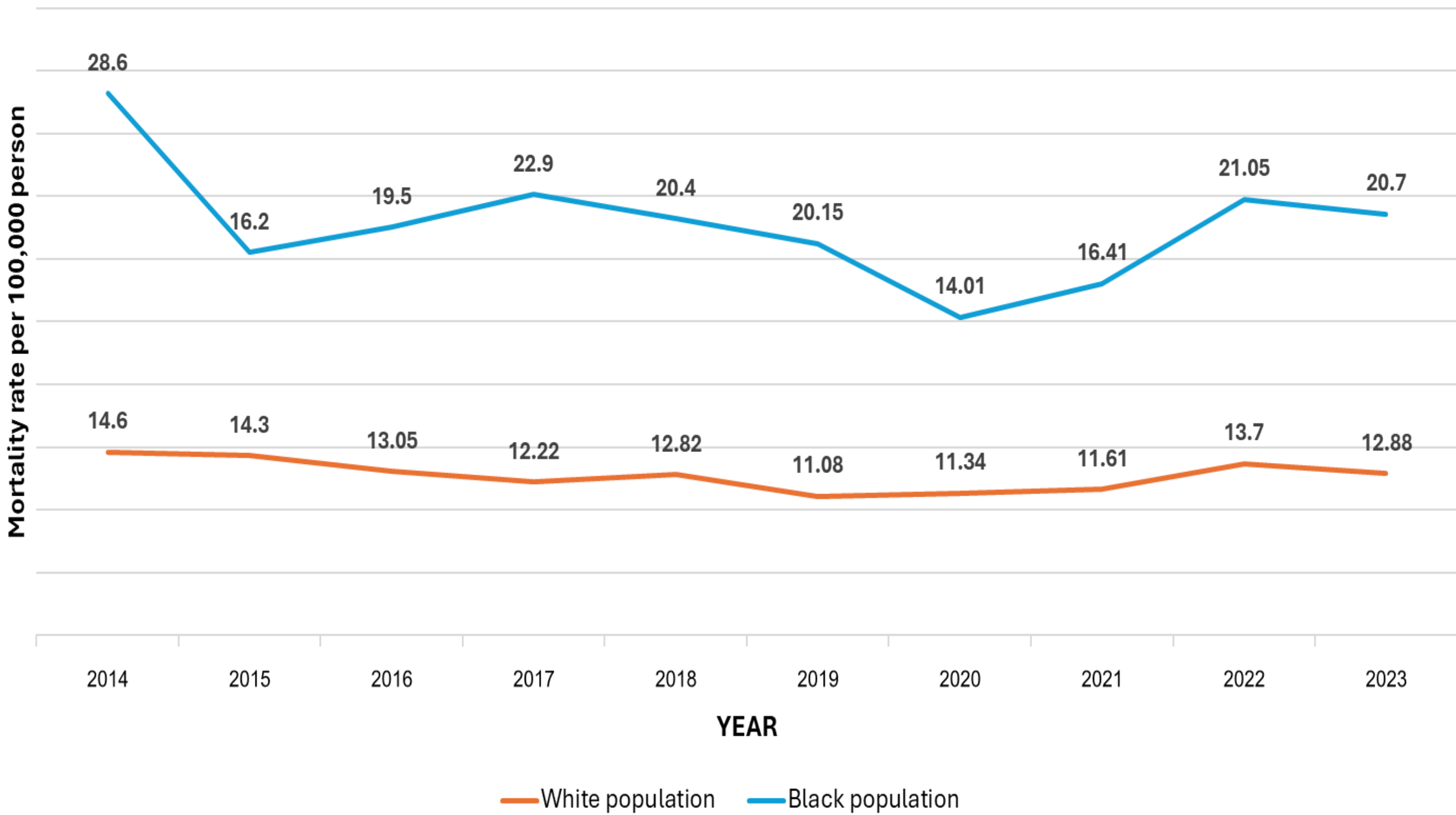


Figure1: Mortality rate over ten years between the White and Black populations

## Conclusions

AKI mortality higher in Black Americans than White Americans across all years. Disparity persists despite decade-long observation. Indicates urgent need for targeted prevention and early detection strategies.

## Discussion

Mortality gap likely reflects socioeconomic, healthcare access, and comorbidity differences. Trend shows persistent but variable disparities (largest in 2014, smallest in 2015). Preventive measures and health equity initiatives are critical.

## Strengths

- Nationwide data source (CDC WONDER, 10 years).
- Large sample size allows reliable comparisons.
- Provides updated evidence of racial disparities in AKI mortality across a decade.

## Limitations

- Restricted to Black and White populations only.
- Relies on death certificate coding accuracy.
- Lack of granular data (socioeconomic status, comorbidities, hospital-level factors).

## Reference

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