



# Temporal Trends of Skull Base Chondroma and Chondrosarcoma-Related Mortality in the United States Population from 1999 to 2023: A Retrospective Analysis using the CDC Wonder Database

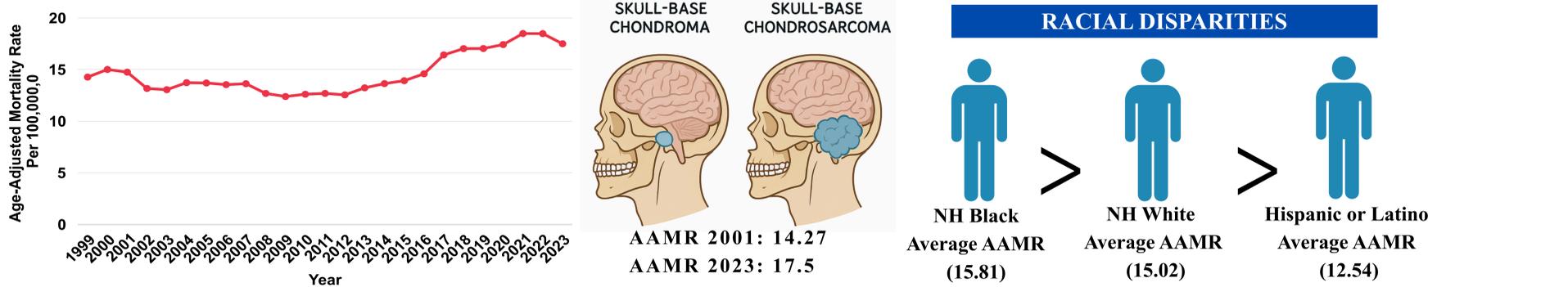


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## CENTRAL ILLUSTRATION: Temporal Trends of Skull Base Chondroma and Chondrosarcoma-Related Mortality in the United States Population from 1999 to 2023: A Retrospective Analysis using the CDC Wonder Database

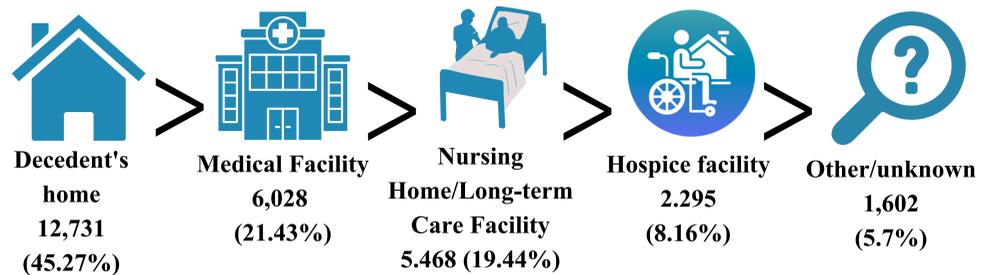
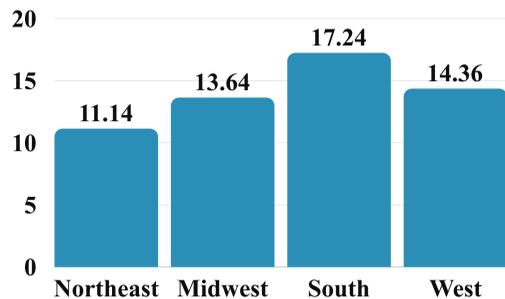
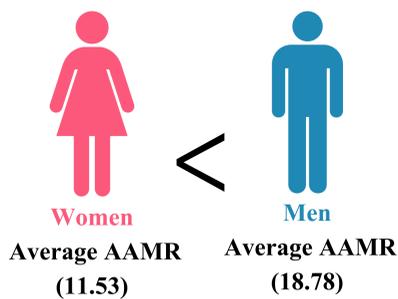


A total of **28,124** deaths were reported in patients with Skull-Base Chondroma and Chondrosarcoma in the U.S. from 1999 to 2023

### SEX

### CENSUS REGION

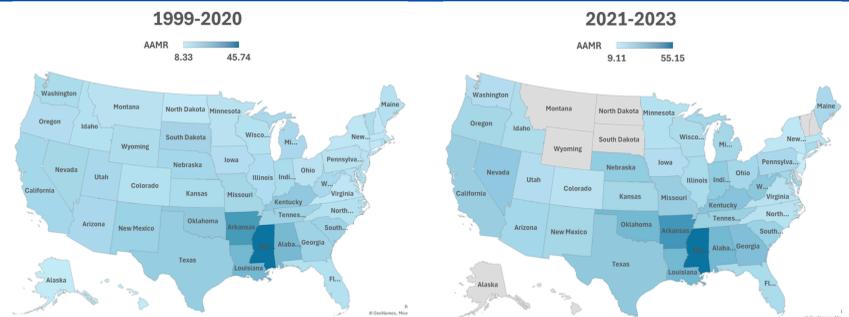
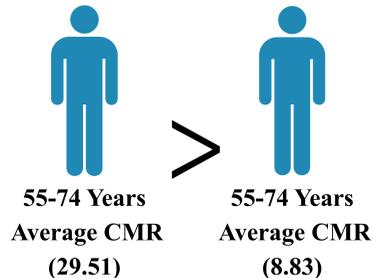
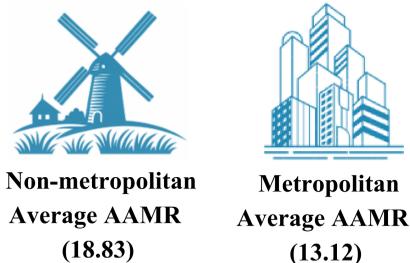
### PLACE OF DEATH



### URBANIZATION (1999-2020)

### AGE GROUP

### STATES



## Introduction

- Chordoma is a notochordal-based malignant tumour that accounts for approximately 4 percent of primary bone tumours
- Chondrosarcoma, which accounts for 20-25 per cent of all malignant bone tumours, is especially prevalent in adults over 75 years of age

## Objective

- To examine national mortality trends among adults aged 55 years and older with Chondroma and Chondrosarcoma stratified by sex, race, place of death, urbanization and geographic region.

## Methods & Material

- Type of Study: Retrospective Observational Study
- Data Source: CDC WONDER underlying cause of death database.
- Study Population: adults 55 years and older in the United States.
- Analysis: Age-adjusted mortality rates (AAMRs) were calculated per 1,000,000 persons with 95% confidence intervals (95% CI) from CDC WONDER using ICD-10 codes C40.1–C41.9 for Chondroma and Chondrosarcoma.
- Average annual percent change (AAPC) and annual percent change (APC) were calculated using **Joinpoint regression software**, with significance at  $p < 0.05$ .

## Results

- **Total Mortality:** 28,124 deaths were reported (1999-2023).
- **Trend:** Overall AAMR rose from 14.27 (1999) to 17.5 (2023) per 100,000,0.
- **Annual Percentage Change:** Significant average increase of 0.83% per year (95% CI: 0.53 to 1.13).
- **Racial Disparity:**
  - Highest AAMR: Non-Hispanic Black individuals (15.81).
  - Intermediate AAMR: Non-Hispanic White individuals (15.02).
  - Lowest AAMR: Hispanic or Latino (12.54).
- **Geographic Disparity:**
  - **Census Region:** Highest burden in South region (17.24), followed by the West (14.36), Midwest (13.64), and Northeast (11.14).
- **Place Of Death:** Majority of deaths occurred in Decedent's home (45.27%), while others/unknown had the least (5.7%).
- **Urbanization:** non-metropolitan rates (18.83) remained higher than the metropolitan rates (13.12).

## Conclusion

- Mortality due to chordoma has increased sharply since 2012 which indicates a necessity for prevention with special emphasis, early detection, and equal measures for health care.

## Contact

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## References

- The Center for Disease Control: National Center for Health Statistics, National Vital Statistics System. <https://wonder.cdc.gov/mcd.html>