# Statewide Burden and Trend of Burkitt lymphoma in the United States from 1990-2021: A Benchmarking Systematic Analysis for the Global Burden of Disease Study 2021

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## Background

Burkitt lymphoma (BL) represents a rapidly proliferating, exceptionally aggressive non-Hodgkin B-cell lymphoma, posing a formidable public health concern. This groundbreaking study marks the inaugural attempt to quantify the burden of BL in the United States over the past three decades, encompassing the initial two years of the COVID-19 pandemic, a period characterized by formidable challenges in cancer management.

## Methodology

We estimated BL incidence, prevalence, mortality, disability-adjusted life years (DALYs), due to BL by age, sex, year and location across the US from 1990-2021. Results were quantified in both absolute numbers and age-standardized rates (per 100,000).

## Conclusion

The increasing trend in the burden of BL across the US underscores the need for enhanced surveillance, targeted public health interventions, and tailored healthcare strategies, particularly in high-incidence regions and among vulnerable populations. These findings illuminate the dynamic landscape of BL and are crucial for policy makers and health systems planning to effectively manage and mitigate the impact of this aggressive cancer.

## Results

From From 1990-2021, there was a significant increase in the prevalence count, with a total percentage change (TPC) of 212%, rising from 7,183 (95% Uncertainty Interval: 4,994-10,629) to 22,379 (10,188-36,056), deaths increased from 217 (151-324) to 502 (215-826), and DALYs rose from 8,380 (5,974-12,150) to 16,051 (7,723-24,139). The incidence rate (ASIR) saw a TPC increase of 87%, followed by a 33% increase in the mortality rate (ASMR) and a 19% increase in the DALYs rate (ASDALR) from 1990-2021. District of Columbia (DC) experienced the highest TPC in ASIR at 200%, followed by California at 136%, while Oklahoma had the lowest at 49%. For ASMR, Maryland saw a 24% increase followed by Idaho at 23%, and for ASDALR, Idaho and Illinois experienced an 11% increase, followed by DC at 9%. Among different age groups, individuals aged 55 years and above had the highest incidence (2,632), followed by those aged 20-54 years (773), with corresponding deaths of 380 and 101, respectively. Regarding gender, females experienced a higher burden increase compared to males. The TPC in incidence for males versus females was 208% versus 254%, for deaths it was 121% versus 152%, and for DALYs om 1990-2021.




