



The 65th ASH Annual Meeting Abstracts

ONLINE PUBLICATION ONLY**642.CHRONIC LYMPHOCYTIC LEUKEMIA: CLINICAL AND EPIDEMIOLOGICAL****Effect of Demographic and Environmental Factors on Chronic Lymphocytic Leukemia(CLL) in the State of Colorado**Yujia Zou¹, Nicholas Orfan²¹Trajectory Health, Shanghai, China²Trajectory Health, Frederick, MD

Various publications have examined the relationship between environmental risk factors and the development of CLL. Factors such as household income, race, altitude and air pollution have been explored. Results have been inconclusive. In this study, we examine these four factors and their possible relationship to the prevalence of CLL.

We accessed the state of Colorado all payer claims database of about 3.6 million people with dates of service from Jan 2017 to June 2020. We calculated age and sex in CLL patients. We used propensity score matching based on age and sex to generate our comparator group on a 1:1 matching scheme. We accessed US EPA 2022 data to get air quality index (AQI) for all zip codes in Colorado and US census data for household income and racial distribution by zip code. We accessed US geological survey data to determine average elevation by zip code. We assess these four factors in relation to CLL and the comparator group.

We found 3622 cases of CLL in the total population. The average age of CLL patients was 69 and the sex distribution was 74% male. After propensity matching, we identified an equal number of non CLL patients as the comparator. In analyzing CLL patients versus the comparators, we found no relationship between average elevation, racial makeup, average household income, or air quality by zip code (P=NS).

In this large statewide population, there was no effect of race distribution, household income, elevation or air quality on the prevalence of CLL.

Disclosures No relevant conflicts of interest to declare.

<https://doi.org/10.1182/blood-2023-185996>