Spatial-temporal Analysis of Paxlovid Dispensing Patterns within Los Angeles County in California

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Background/Purpose

In mapping the spatial distribution of Paxlovid dispensing rates across Los Angeles County, we aim to identify clustering based on predictors for higher dispensing rates such as accessible pharmacies and other factors including socioeconomic elements. To reach socioeconomically disadvantaged communities, the Test-to-Treat initiative was expanded in May 2022. By assessing the spatial-temporal shifts in dispensing patterns, we specifically aim to evaluate whether disparities were effectively addressed.

Methods

Accessibility Index is the metric used to assess the availability of Paxlovid in community pharmacies based on the quantity of locations within the boundaries of the city in Los Angeles County with active inventory per capita throughout the specified period; <25th percentile is considered low, 25th to 75h percentile is considered moderate, and >75th percentile is considered high.

Results

Cities with high availability of Paxlovid tended to have a higher median household income, higher percentage having attained a bachelor's degree or higher, and lower percentage without health insurance (Figure 1A-C). Cities with a predominantly white, non-Hispanic composition had either moderate or high accessibility (Figure 1D). Cities with a predominantly Hispanic composition exhibited either low or moderate accessibility, with the distribution skewed towards moderate (Figure 1D). Cities with a predominantly Asian composition exhibited uniform distribution (Figure 1D). Cities with a high accessibility index had a lower adjusted case/death rate (Figure 2A-B) and a higher proportion up-to-date with the COVID-19 immunization series (Figure 2C).

Conclusion

Our findings illustrate the persistence of disparities in Paxlovid access first reported by the CDC in October 2022. An understanding of how the disparities varied across spatial-temporal dimensions is crucial for a more targeted, adaptable, and ultimately successful public health response. Any detailed insights should be interpreted within the context of community pharmacies across cities within Los Angeles County. The broader insights may be relevant to other large metropolitan areas in the US.